

Exhibit 2

Page 1

1 UNITED STATES DISTRICT COURT

2 DISTRICT OF NEW JERSEY

3 * * * * *

4 IN RE: JOHNSON & JOHNSON TALCUM POWDER
5 PRODUCTS MARKETING, SALES PRACTICES, AND
6 PRODUCTS LIABILITY LITIGATION

7 MDL No. 16-2738(MAS)(RLS)

8 * * * * *

9 DEPOSITION OF JUAN FELIX, MD

10 TAKEN AT: Medical College of Wisconsin
11 LOCATED AT: 8701 Watertown Plank Road
12 Milwaukee, WI

13 June 22, 2024

14 9:08 a.m. to 5:12 p.m.

15 REPORTED BY ANITA KORNBURGER
16 REGISTERED PROFESSIONAL REPORTER
17

18 * * * * *

Page 2

1 APPEARANCES

2 BEASLEY ALLEN, by

3 Mr. David Dearing

4 218 Commerce St

5 Montgomery, AL, 36104

6 334-269-2343

7 david.dearing@beasleyallen.com

8 Appearing on behalf of the Plaintiffs.

9 SHOOK, HARDY & BACON, by

10 Mr. Mark Hegarty

11 2555 Grand Boulevard

12 Kansas City, MO 64108

13 816.474.6550

14 mhegarty@shb.com

15 Appearing on behalf of the Defendants.

16 REILLY, MCDEVITT HENRICH, by

17 Mr. Paul Smyth

18 3 Executive Campus, Suite 310

19 Cherry Hill, NJ 08002

20 856.317.7180

21 psmyth@rmh-law.com

22 Appearing by Zoom on behalf of the Defendants.

23

24

25

INDEX

16 Examination by Page

17 Mr. Dearing. 4

18 Mr. Hegarty. 253

19 Mr. Dearing. 278

20

21

22

23

24

25

Page 4

1 TRANSCRIPT OF PROCEEDINGS

2 JUAN FELIX, MD, called as a witness

3 herein, having been first duly sworn on oath,

4 was examined and testified as follows:

5 EXAMINATION

6 BY MR. DEARING:

7 Q. Good morning, Dr. Felix.

8 A. Good morning.

9 Q. For efficiency, as I just explained off

10 the record, I'm going to start with just some

11 general questions that I believe apply to all seven

12 cases. And then I'll eventually move into more

13 case-specific questions. But of course I'll tell

14 you when I'm transitioning to something case

15 specific so that no one is confused.

16 And when I just generally refer to

17 these cases or these seven cases, I'm referring to

18 Carl, Balderrama, Rausa, Converse, Judkins,

19 Gallardo, and Bondurant, those seven.

20 These initial questions, like I said,

21 are general in nature. But if you think you need

22 to make a distinction with regard to your answer to

23 a specific case, please tell me you're making the

24 distinction or you're referring to a specific case.

25 Otherwise I'm going to presume that your answers

Page 3

1 EXHIBITS

2 Page

3 Exhibit No. Description Identified

4 1 Anatomic diagram of the

5 female reproductive tract. 78

6 2 Cross-section of the female

7 reproductive tract. 79

8 3 Study by Dr. Sandra McDonald. 85

9 4 Invoices pertaining to Carl. 160

10 5 Providence Holy Cross Medical

11 Center pathology report. 167

12 6 Brandi Carl report. 207

13 7 Balderrama report. 207

14 8 Rausa report. 207

15 9 Converse report. 207

16 10 Gallardo report. 207

17 11 Judkins report. 207

18 12 Bondurant report. 207

19 13 Ms. Gallardo's surgical pathology

20 report. 227

21 14 Different copy of Ms. Gallardo's

22 surgical pathology report. 229

23 (Original exhibits attached to original transcript.

24 Copies provided to all counsel.)

25

Page 5

1 cover all of them.

2 A. Very well.

3 Q. Okay. So let's start with the deposition

4 itself. How much time did you spend preparing for

5 the deposition?

6 A. Probably in the neighborhood of ten to

7 twelve hours.

8 Q. And that covers all seven --

9 A. Yes.

10 Q. -- clients?

11 A. Yes.

12 Q. Was some of that time meeting with

13 lawyers?

14 A. The meeting with attorneys were in

15 addition to the twelve hours.

16 Q. Okay. How many hours did you spend

17 meeting with attorneys to prepare for the

18 deposition?

19 A. Probably a total of three hours.

20 Q. And did the attorneys provide you any

21 documents to review in preparation for the

22 deposition?

23 A. They did -- well, they provided me with

24 the reports that I authored. They just put them in

25 convenient folders.

<p style="text-align: right;">Page 6</p> <p>1 Q. Right.</p> <p>2 A. Save me time.</p> <p>3 Q. We do that. We're big on binders.</p> <p>4 A. Yeah.</p> <p>5 Q. Okay. Did they provide you any medical</p> <p>6 records or did you already have them?</p> <p>7 A. I had the medical records for all seven</p> <p>8 of these patients.</p> <p>9 Q. Okay. What about any studies? Did they</p> <p>10 provide you with any studies in preparation for</p> <p>11 today?</p> <p>12 A. They did not. Most of the studies that I</p> <p>13 relied on either were provided to me by the</p> <p>14 attorneys many years ago or were the product of</p> <p>15 literature searches on my part.</p> <p>16 Q. Did they at some point show you the</p> <p>17 notice of deposition that was served in this case?</p> <p>18 A. Yes.</p> <p>19 Q. In that notice we requested that you</p> <p>20 provide several things, namely, invoices for each</p> <p>21 case, but we were only provided invoices in one</p> <p>22 case, in the Carl case. Is that because you don't</p> <p>23 have them or were unable to produce them or what?</p> <p>24 A. So I don't personally invoice. My wife</p> <p>25 keeps tally of my hours. And she invoices. And</p>	<p style="text-align: right;">Page 8</p> <p>1 MR. HEGARTY: We provided three invoices.</p> <p>2 MR. DEARING: They were all for the Carl</p> <p>3 case, though.</p> <p>4 MR. HEGARTY: I can look at them just to</p> <p>5 confirm that, but you probably have copies --</p> <p>6 MR. DEARING: We're going to go over</p> <p>7 them.</p> <p>8 MR. HEGARTY: Okay.</p> <p>9 MR. DEARING: I was just curious why</p> <p>10 there weren't --</p> <p>11 MR. HEGARTY: That's because they have</p> <p>12 not been created.</p> <p>13 MR. DEARING: Okay.</p> <p>14 BY MR. DEARING:</p> <p>15 Q. So to be clear, you've never billed for</p> <p>16 that time in the other MDL cases?</p> <p>17 A. I have not yet, no.</p> <p>18 Q. Okay. And Balderrama has been around as</p> <p>19 long as Carl. Have you invoiced anything in that</p> <p>20 case?</p> <p>21 A. Not that I'm aware of, no.</p> <p>22 Q. Ever in the last seven, eight years since</p> <p>23 it's been created?</p> <p>24 A. Correct.</p> <p>25 Q. So I've deposed you a few times in the</p>
<p style="text-align: right;">Page 7</p> <p>1 these cases are so -- some of these cases are so</p> <p>2 old that when I asked her, hey, did you prepare</p> <p>3 invoices, she said it would take me a week to be</p> <p>4 able to invoice these cases. And I said, well,</p> <p>5 don't worry about it. We'll do it after the</p> <p>6 deposition.</p> <p>7 Q. Okay. What's your wife's name?</p> <p>8 A. Betsy. B-E-T-S-Y.</p> <p>9 Q. Felix?</p> <p>10 A. Yes.</p> <p>11 Q. So are you saying that you just haven't</p> <p>12 issued any invoices in the last few years or so in</p> <p>13 these cases except for Carl?</p> <p>14 A. That's correct.</p> <p>15 MR. DEARING: And Mark, we would still</p> <p>16 like to get the old invoices at some point.</p> <p>17 MR. HEGARTY: Yeah, we were intending to</p> <p>18 provide all invoices for the seven cases. We</p> <p>19 provided those that have been created.</p> <p>20 MR. DEARING: The only --</p> <p>21 MR. HEGARTY: There are no others that</p> <p>22 have been created for these seven cases besides</p> <p>23 those we provided to you.</p> <p>24 THE WITNESS: I think there are three</p> <p>25 invoices that we --</p>	<p style="text-align: right;">Page 9</p> <p>1 past, and I'm going to try not to go back over</p> <p>2 things I've already deposed you on. But let me</p> <p>3 just ask you now, since I haven't deposed you in a</p> <p>4 while, how much time do you spend actually caring</p> <p>5 for patients, in other words, reviewing surgical</p> <p>6 slides?</p> <p>7 A. I spend probably eight hours a day doing</p> <p>8 patient care.</p> <p>9 Q. And as a pathologist, do you actually</p> <p>10 meet with patients or is that mostly done outside</p> <p>11 their presence, the work you do?</p> <p>12 A. Since I have been at Medical College of</p> <p>13 Wisconsin, I have only interacted once or twice</p> <p>14 with a patient in a role as a cytologist -- that's</p> <p>15 C-Y-T-O -- doing a fine needle aspiration. In my</p> <p>16 prior job I used to interact with patients on a</p> <p>17 daily basis. But here at MCW, that ceased.</p> <p>18 Q. Okay. And how long have you been here at</p> <p>19 MCW?</p> <p>20 A. Seven-and-a-half years.</p> <p>21 Q. Are most of your interactions with other</p> <p>22 pathologists or surgeons, or what?</p> <p>23 A. Yes, I interact with other pathologists</p> <p>24 in my role as a chief of anatomic pathology, both</p> <p>25 administratively and as a colleague, meaning</p>

<p style="text-align: right;">Page 10</p> <p>1 looking at cases that are difficult for them. But</p> <p>2 I also interact with surgeons mostly in the</p> <p>3 department of ob/gyn, but also in the department of</p> <p>4 surgical oncology.</p> <p>5 Q. Has the -- I'm sorry, your title is chief</p> <p>6 of pathology?</p> <p>7 A. Chief of anatomic pathology. Two</p> <p>8 branches of pathology, anatomic and clinical.</p> <p>9 Clinical pathology is laboratory medicine.</p> <p>10 Q. Right.</p> <p>11 A. That does all the blood work, urine,</p> <p>12 fluids. And I did not train in that area. I</p> <p>13 limited my training to the anatomic pathology.</p> <p>14 Q. Does anatomic pathology include autopsy</p> <p>15 service, that kind of thing?</p> <p>16 A. Yes. I am actually the director of</p> <p>17 autopsy at MCW right now.</p> <p>18 Q. So does -- does an anatomical pathologist</p> <p>19 do surgical pathology review --</p> <p>20 A. Yes.</p> <p>21 Q. -- in cancer patients?</p> <p>22 A. Yes.</p> <p>23 Q. And as the chief of anatomical pathology,</p> <p>24 are you actually reviewing slides on a day-to-day</p> <p>25 basis from -- straight from the surgeon, or do you</p>	<p style="text-align: right;">Page 12</p> <p>1 about five o'clock.</p> <p>2 Q. Okay. About how much time is typical, if</p> <p>3 there is such a thing, to look at the slides from</p> <p>4 an ovarian cancer case to diagnose it?</p> <p>5 A. Right. So it almost always takes between</p> <p>6 20 and 40 minutes to go through the entire case.</p> <p>7 Q. And as a rule you're not typically</p> <p>8 polarizing those slides, are you?</p> <p>9 A. As a general rule, I do not use polarized</p> <p>10 microscopy to look at ovarian cancer, correct. Let</p> <p>11 me modify my answer. In cases where there's very</p> <p>12 extensive disease that's very obvious, it may take</p> <p>13 as little as ten minutes.</p> <p>14 Q. Okay.</p> <p>15 A. Okay. Because you just put the slide on</p> <p>16 and --</p> <p>17 Q. You know it when you see it?</p> <p>18 A. Yeah.</p> <p>19 Q. Are you presently working on any</p> <p>20 publications or projects that you intend to</p> <p>21 publish?</p> <p>22 A. Yes.</p> <p>23 Q. Can you tell me about those?</p> <p>24 A. Yeah. Most -- most of them are in two</p> <p>25 groups of topics. One of them is in the work that</p>
<p style="text-align: right;">Page 11</p> <p>1 only review when another pathologist comes to you</p> <p>2 and says hey, I need help with this?</p> <p>3 A. So currently I am the only</p> <p>4 fellowship-trained ob/gyn trained pathologist at</p> <p>5 MCW. So I review all of the ob/gyn pathology cases</p> <p>6 that come into the laboratory every day.</p> <p>7 Q. So you said you spend about eight hours a</p> <p>8 day looking at slides; is that right?</p> <p>9 A. Well, I also participate in the autopsy.</p> <p>10 So, for example, yesterday we started an autopsy at</p> <p>11 ten and finished at twelve. And prior to that I</p> <p>12 was doing -- picking out slides from cases in the</p> <p>13 past to send out to molecular -- molecular labs</p> <p>14 such as Foundation or Caris. I have -- we have to</p> <p>15 look through the case and pick the best slide to</p> <p>16 send to those -- to those laboratories. And that</p> <p>17 takes about an hour to an hour and a half every</p> <p>18 day.</p> <p>19 Q. What do those laboratories do?</p> <p>20 A. They do next generation sequencing of the</p> <p>21 tumors in order to provide information for possible</p> <p>22 personalized therapies. Then after my autopsy, I</p> <p>23 sat down with the fellow in ob/gyn pathology and</p> <p>24 looked at all of the cases for the day. There were</p> <p>25 about 45, 50 cases yesterday. So that took us to</p>	<p style="text-align: right;">Page 13</p> <p>1 I do for cervical cancer prevention in countries of</p> <p>2 low income. We have two manuscripts that are</p> <p>3 currently being prepared. One of them is a really</p> <p>4 revolutionary publication that will probably change</p> <p>5 the way we treat cervical cancer, resulting from</p> <p>6 clinical trials that we've done. So those are</p> <p>7 summaries of clinical trials in cervical cancer</p> <p>8 prevention.</p> <p>9 The other group of publications is in</p> <p>10 the field of COVID. When COVID hit in 2020, I was</p> <p>11 the only pathologist who agreed to do COVID</p> <p>12 autopsies. And I took the opportunity to start a</p> <p>13 biorepository of tissues. And I have -- I did</p> <p>14 about 80 COVID autopsies. The first 20 I obtained</p> <p>15 frozen tissue from most major organs.</p> <p>16 So now I am collaborating with basic</p> <p>17 scientists. The closest collaboration that I have</p> <p>18 is with Ivor Benjamin, I-V-O-R, and we are looking</p> <p>19 at some -- and I won't lie to you, I don't know the</p> <p>20 name of the molecules -- but some molecules that</p> <p>21 are profibrotic, meaning they tend to increase the</p> <p>22 fibrosis in organs, using my samples.</p> <p>23 So we've already published two</p> <p>24 articles in there -- in that topic. And I am</p> <p>25 listed in two grant applications for that. So</p>

<p style="text-align: right;">Page 14</p> <p>1 those are the two major areas.</p> <p>2 Q. I'd love to spend some time picking your</p> <p>3 brain about all that, but I need to move on. I</p> <p>4 look forward to reading it.</p> <p>5 So you're not presently working on any</p> <p>6 projects for publication involving ovarian cancer?</p> <p>7 A. I am not.</p> <p>8 Q. Some time ago you and I got into a</p> <p>9 lengthy discussion about cervical cancer. And I</p> <p>10 believe you opined that the only cause of cervical</p> <p>11 cancer is HPV; is that right?</p> <p>12 A. By far the predominant cause of cervical</p> <p>13 cancer is HPV. There are rare, non-HPV-associated</p> <p>14 cervical cancers. Those are a very special type of</p> <p>15 cervical cancer called gastric adenocarcinomas.</p> <p>16 And they represent .1 percent of all cervical</p> <p>17 cancers.</p> <p>18 Q. Gastric meaning derived from the</p> <p>19 digestion system?</p> <p>20 A. No. It's a horrible name to have given</p> <p>21 them. They used to be called adenoma malignum.</p> <p>22 Then they changed the name to minimal deviation</p> <p>23 adenocarcinomas. And then the WHO, in all their</p> <p>24 wisdom, termed them gastric because some of the</p> <p>25 mucin that is produced by these cancers were</p>	<p style="text-align: right;">Page 16</p> <p>1 Q. Cover a lot of ground in one hour.</p> <p>2 A. Yeah. They have been reducing the</p> <p>3 didactic content of medical school to the point</p> <p>4 that if you -- students relied only on what is</p> <p>5 being taught in lecture, they would be lay people,</p> <p>6 not doctors. But that is a personal opinion.</p> <p>7 Q. I understand. Are those lectures ever</p> <p>8 transcribed? Are they in written form anywhere?</p> <p>9 A. Yes. They are -- they are -- I created a</p> <p>10 PowerPoint presentation that is -- that is</p> <p>11 available to all the medical students through the</p> <p>12 MCW website. I don't know whether it's available</p> <p>13 to the public.</p> <p>14 Q. Okay.</p> <p>15 A. But, I mean, I could provide you with</p> <p>16 that PowerPoint. Not all of the information that I</p> <p>17 speak is in the slides, but --</p> <p>18 Q. Right.</p> <p>19 A. -- it's a -- it's a format for me to</p> <p>20 follow.</p> <p>21 Q. Would it be fair to say that it's a</p> <p>22 cursory review of ovarian cancer given the fact you</p> <p>23 only have an hour to give it?</p> <p>24 MR. HEGARTY: Objection to the form.</p> <p>25 THE WITNESS: It is a -- it is an outline</p>
<p style="text-align: right;">Page 15</p> <p>1 similar to the mucin in gastric adenocarcinomas.</p> <p>2 But it confuses a lot of people, including</p> <p>3 pathologists.</p> <p>4 Q. It's probably the same person that named</p> <p>5 endometrioid carcinoma, 'cause -- never mind.</p> <p>6 Is it fair to say most of your</p> <p>7 clinical research at this time involves cervical</p> <p>8 cancer and the COVID work that you're doing?</p> <p>9 A. Currently, yes.</p> <p>10 Q. And has that been true for the past,</p> <p>11 what, four, five years?</p> <p>12 A. You're correct, yes.</p> <p>13 Q. In the past five years have you ever</p> <p>14 given any kind of presentation that included the</p> <p>15 topic of causes of ovarian cancer?</p> <p>16 A. Yes. I teach medical students at the</p> <p>17 Medical College of Wisconsin, and there's an annual</p> <p>18 lecture on ovarian cancer in which I -- I outline</p> <p>19 the major associations to ovarian cancer.</p> <p>20 Q. Is that a one-day lecture or multiple</p> <p>21 days or --</p> <p>22 A. For ovarian cancer, it's a one-hour</p> <p>23 lecture.</p> <p>24 Q. One hour.</p> <p>25 A. Yeah.</p>	<p style="text-align: right;">Page 17</p> <p>1 of ovarian cancers meant to guide the students'</p> <p>2 search into ovarian cancer.</p> <p>3 BY MR. DEARING:</p> <p>4 Q. And does the issue of -- is the issue of</p> <p>5 genital talc use incorporated in that presentation</p> <p>6 at all?</p> <p>7 A. It is not.</p> <p>8 Q. Are there any environmental factors that</p> <p>9 you include as risk factors for ovarian cancer?</p> <p>10 A. Environmental, would that include</p> <p>11 medications or hormones?</p> <p>12 Q. Well, often when I see a list of risk</p> <p>13 factors for ovarian cancer, it'll say environmental</p> <p>14 exposures, and it's a very general term. But I</p> <p>15 would open it as general as you want to make it.</p> <p>16 A. I discuss hormones in relationship to</p> <p>17 ovarian cancer. Basically my opinion, or my</p> <p>18 teaching to the medical students, is that ovarian</p> <p>19 cancer has a very low, if any, association with</p> <p>20 hormone exposure. So other than that, I can't</p> <p>21 think of an environmental exposure to speak of.</p> <p>22 Q. And is that across all histologies?</p> <p>23 A. That is across all histologies, yes.</p> <p>24 Q. So if you have very little patient</p> <p>25 interaction at MCW, is it fair to say that you</p>

<p style="text-align: right;">Page 18</p> <p>1 never talk to patients about what caused their 2 cancer? 3 A. I do not at MCW, no. 4 Q. Is it also true that determining the 5 cause of a women's cancer is just not part of your 6 normal care and treatment of the patient? 7 A. We're speaking strictly of ovarian? 8 Q. Yes. 9 A. No, because the laboratory performs 10 studies, genetic studies. So for example, if a 11 woman has a BRCA1 or BRCA2 mutation, I would opine 12 that that mutation was probably the cause of her 13 cancer. Sorry, let me just make sure I'm on mute. 14 Q. Okay. And if you need to take a call at 15 any time, I -- 16 A. No, that's fine. 17 Q. I don't mind taking a break. 18 So aside from genetic screening and 19 studying germline mutations, do you ever consider 20 any other causes of ovarian cancer or do you ever 21 try to discern the cause of any of your patient's 22 ovarian cancers? 23 MR. HEGARTY: Objection to form. 24 THE WITNESS: No. Ovarian cancer, like 25 most solid tumors, the vast majority of them occur</p>	<p style="text-align: right;">Page 20</p> <p>1 a while, instead of putting an A, an adenine, it 2 puts down a G line. That is a -- that is a 3 mismatch. 4 But there's another molecule that 5 follows called a mismatch repair molecule. And it 6 detects the fact that there's a G instead of an A, 7 and it knocks off the G and puts in an A. And all 8 of this is occurring at vertiginous speed. 9 If there are too many mistakes, or 10 even if there aren't too many mistakes, but the 11 mismatch repair protein doesn't detect the error, 12 that base pair will remain in the daughter cell. 13 And that -- most of the time it doesn't matter, 14 because that base pair will either create a 15 nonviable cell, meaning it was in a gene that was 16 so critical that the cell dies, or it is silent. 17 It doesn't matter because it occurred 18 in a piece of DNA that wasn't transcribed, but 19 occasionally it will result in a mutation that 20 gives the cell an advantage. And those are called 21 mutations that will progress towards 22 immortalization of the cell. 23 And following immortalization, that 24 cell will continue to have mistakes and turn into a 25 cancer cell. So that is the most common cause of</p>
<p style="text-align: right;">Page 19</p> <p>1 sporadically. So that is the most common cause of 2 their cancer. 3 BY MR. DEARING: 4 Q. So let me just ask you. In your opinion, 5 are there any known causes of ovarian cancer? 6 A. Yes. I think I discussed the genetic 7 mutations in the cancer genes. Also probably the 8 most common cause for ovarian cancer in most solid 9 tumors is mismatched repair gene -- mismatched 10 repair gene overwhelming -- or overwhelming 11 gene -- mismatch repair genes from normal cell 12 division. 13 Q. And the mismatch repair gene disruption 14 is because of some kind of DNA damage typically, 15 isn't it? 16 A. So every time a cell divides, the 17 machinery of the cell has to copy the entire genome 18 of that cell, which basically has all of the DNA 19 that is within every one of our cells. Needless to 20 say, that is an immense amount of copying, and 21 there are mistakes made. 22 So there are four base pairs: 23 adenine, guanine, cytosine, uracil in the case of 24 RNA, and those are basically put down in a row by a 25 molecule called the polymerase. And every once in</p>	<p style="text-align: right;">Page 21</p> <p>1 cancer. 2 And this is all really outlined 3 beautifully in a publication by an Italian author 4 called Tomasetti in a landmark publication. And 5 I'm forgetting the title of that. But if you -- if 6 you put that into -- into PubMed, it'll pop out 7 pretty high on the list. 8 Q. As I understand it, isn't it true that 9 the BRCA1 and BRCA2 mutations directly impact this 10 mismatch repair gene? In other words, it disrupts 11 the repair mechanism? 12 A. The way BRCA1 and BRCA2 mutations work is 13 that they are antioncogenes. They slow down the 14 rate of replication. By slowing down the rate of 15 replication, you actually cause the mismatch repair 16 proteins to be able to handle the work. But if you 17 accelerate replication, the odds of getting a 18 mutation are much, much higher. So that's the way 19 most cancers are caused. 20 I'll give you an example in my field. 21 Cervical cancer. Human papilloma virus has a 22 protein that stops two antioncogenes. If you take 23 a normal cervical cell, the rate replication is 24 once every probably couple of weeks. If you 25 introduce HPV, the rate of replication is every six</p>

<p style="text-align: right;">Page 22</p> <p>1 hours. So all of a sudden you have increased the 2 probabilities of getting a mutation many-fold. 3 Q. Okay. Is it true that the main driving 4 cause of a repair disruption is some damage to the 5 DNA of a cell? 6 A. I'm not sure I can answer that. I'll 7 give you -- 8 Q. Let me ask it a different way. I 9 understand that constant replication may have its 10 own inborn mismatch mistakes, I'll call them, and 11 they just happen. But they also occur sometimes 12 when they're -- when the DNA is damaged, which 13 affects its ability to properly replicate or 14 affects apoptosis, where it doesn't die on its own 15 because it was improperly replicated. Is that a 16 fair statement? 17 MR. HEGARTY: Objection to the form. 18 THE WITNESS: Yes, there are what are 19 called mismatch repair gene mutations, which are 20 mutations to the DNA. And the mutations occur in 21 the genes that produce the proteins that repair 22 mismatch based pairs. If a person has a mismatch 23 repair gene mutation, they have a much higher risk 24 of acquiring cancers. And, for example, in 25 endometrial cancer and in colon cancer, mismatch</p>	<p style="text-align: right;">Page 24</p> <p>1 reasonable process that could take place in humans? 2 MR. HEGARTY: Objection to form. 3 THE WITNESS: So one of the things that I 4 try to do as a -- as you mentioned, as an expert, 5 is not speculate, because speculation means that 6 I'm just guessing. 7 BY MR. DEARING: 8 Q. Right. 9 A. So there are some topics that I just 10 can't say yes or no to, and this is one of them. 11 Q. Well, is there any reason to think that 12 because it's been demonstrated in a cell culture, 13 it would not operate that way in a human body? 14 A. There are many reasons. 15 Q. Okay. 16 A. So in a cell culture you have a static 17 situation, where you put the source of reactive 18 oxygen species right on top of the cells and it 19 remains there. In an animal, there's blood flow, 20 there's oncotic pressures that -- that prevent 21 things from going into cells or out of cells. 22 There are so many factors that can't be replicated 23 from in a static cell culture environment that 24 would make that information a very valuable piece 25 of information.</p>
<p style="text-align: right;">Page 23</p> <p>1 repair gene mutations are, A, common, and a common 2 cause of those cancers. 3 BY MR. DEARING: 4 Q. I've seen studies where reactive oxygen 5 species can damage DNA in a way that may affect 6 proper replication. Do you agree that that's a 7 possibility as well? 8 MR. HEGARTY: Objection to the form. 9 THE WITNESS: That has been demonstrated 10 in cell cultures. To the best of my knowledge, it 11 has not been replicated in animals or humans. It 12 is an interesting phenomenon because reactive 13 oxygen species can alter DNA. The question is how 14 do -- how do reactive oxygen species access the 15 DNA. 16 BY MR. DEARING: 17 Q. Okay. Do you have an opinion about 18 whether that is true biologically, that reactive 19 oxygen species can damage DNA which can cause 20 disruption in proper replication? 21 A. In cell culture I do believe that's true. 22 I don't think it's been demonstrated in animals. 23 Q. Right. But one of the advantages of 24 being an expert witness is you're allowed to offer 25 opinions about things. Do you think that that's a</p>	<p style="text-align: right;">Page 25</p> <p>1 Reactive oxygen species alters DNA in 2 cell culture, but how can we design a study to show 3 that it does so in animals. And that's -- that's 4 where I don't think it's been done yet. 5 BY MR. DEARING: 6 Q. Right. It seems to me that that would be 7 impossible to do. 8 A. Oh, I mean in -- we do horrible things to 9 laboratory animals. I'm pretty sure that we could. 10 Q. I've also read -- and I've heard 11 testimony about -- situations where molecules 12 or -- I'm trying to think of the right 13 word -- materials, can attach themselves to a DNA 14 helix and cause damage. For example, I was 15 cross-examining -- or deposing Dr. Chodash 16 (phonetic). Do you know Dr. Chodash -- Dr. Chodash 17 at Penn? He's a cell biologist. 18 A. I don't know him. 19 Q. Well, we had a long conversation in a 20 deposition about tobacco and lung cancer. And he 21 was trying to explain to me the current thinking of 22 how tobacco smoke in the context of tobacco causes 23 lung cancer. And he said there are -- there are 24 carcinogenic molecules in tobacco smoke that 25 actually attach to the DNA which cause considerable</p>

<p style="text-align: right;">Page 26</p> <p>1 damage, which starts oncogenesis. 2 First of all, do you agree with that 3 notion about tobacco, or is that beyond your field 4 of study? 5 MR. HEGARTY: Objection to form. 6 THE WITNESS: Yeah, it's way beyond my 7 field of study. I had a -- early on a colleague 8 who -- who had a grant in tobacco smoke as related 9 to carcinogenesis, and I sat in many of his 10 laboratory meetings because I was cloning a gene 11 for him. And he basically was studying tobacco 12 glycoproteins as a toxin to cells. 13 So his point of view was that these 14 tobacco glycoproteins cause injury to the cell 15 itself. Injury to cells causes increased 16 replication. Increased replication causes mismatch 17 repair, which causes mutations, which causes 18 cancer. That was his line. I am completely 19 unaware -- and doesn't mean it's not true -- 20 unaware of tobacco proteins or -- sticking to DNA. 21 BY MR. DEARING: 22 Q. Okay. With regard to ovarian cancer, do 23 you believe that oncogenesis occurs when the cell 24 is damaged somehow and then it causes this 25 irregular replication and eventually transforms</p>	<p style="text-align: right;">Page 28</p> <p>1 that fallopian tube epithelium is exposed to 2 pharmacologic levels of estrogen. So a woman will 3 have 325 micrograms per deciliter of estrogen. The 4 ovary will have 25,000 micrograms per deciliter 5 because it's generating it there, and it leaches 6 out into the circulation of the woman. 7 That incredibly high level of 8 estrogen -- estrogen is a mitogen, meaning it 9 causes the epithelium to replicate -- starts 10 causing that little inclusion to -- the cells 11 inside that inclusion to replicate. And as we 12 discussed several times already in this 13 conversation, increases replication, increases the 14 chance of mismatched repairs, and the possibility 15 that that cell will become immortalized and 16 cancerous. So that's the way cancer can start 17 inside the ovary. 18 Cancer in the fallopian tube -- even 19 though there's a lot of people who claim that all 20 of it starts in the fallopian tube -- is really, in 21 my opinion, mostly in patients who have inherited 22 mutations. So BRCA -- most of the cancers in BRCA 23 in women start in the fallopian tube, and that's 24 because they already have one gene down, one 25 allele -- there's two alleles -- and to get both of</p>
<p style="text-align: right;">Page 27</p> <p>1 into a clinical? 2 A. So no. 3 Q. It's never as simple as my questions, but 4 I'm trying to -- 5 A. I will explain. 6 Q. Okay. 7 A. So the current hypothesis on ovarian 8 carcinogenesis is that ovarian cancer starts in 9 epithelium of the fallopian tube. Now, there are 10 two sources of fallopian tube epithelium. One of 11 them obviously in the fallopian tube. The second 12 is inside of the ovary. Every time the ovary 13 ovulates, it opens up. And the fallopian tube 14 usually sits right on top of the ovary because it 15 has to catch the egg as it comes out. 16 And as the ovary -- as the egg is 17 expelled, there's a lot of hemorrhage. There's a 18 lot of fibrin to stop the bleeding. And fibrin is 19 like glue. And occasionally it'll pinch off a 20 little piece of fallopian tube epithelium, and that 21 piece of fallopian tube epithelium will be 22 incorporated inside of the ovary. Those are called 23 inclusions in the ovary. 24 Fallopian tube epithelium is -- has 25 estrin receptors. And once inside of the ovary,</p>	<p style="text-align: right;">Page 29</p> <p>1 them you only need one mutation. 2 So that's -- that's the reason it 3 starts in the fallopian tube because there's so 4 many cells in the fallopian tube. 5 Q. So I need to unpack that a little bit. 6 So it seems inconsistent with regard to the 7 inclusion phenomenon when you said a few minutes 8 ago that most ovarian cancers are not influenced by 9 hormones. So there seems to be a -- maybe I'm not 10 understanding it right, but -- 11 MR. HEGARTY: Object to form. 12 THE WITNESS: By external hormones. 13 BY MR. DEARING: 14 Q. By external hormones. 15 A. Correct. 16 Q. Okay. 17 A. And may I qualify that? 18 Q. Yeah. 19 A. So when you -- when you administer 20 hormones to a woman, you're basically administering 21 the levels of in the circulation. In the ovary, 22 the levels are just astronomically high. 23 Q. Is it fair to say that serous carcinoma 24 of the ovary is not thought to be influenced by 25 hormones?</p>

<p style="text-align: right;">Page 30</p> <p>1 A. Because 70 percent of all ovarian cancer 2 is serous, the answer is yes, it's influenced by 3 the hormones -- pharmacologic levels of hormones in 4 the ovary. 5 Q. And that would just apply to the 6 inclusion cancer, not so much those in the 7 fallopian tube? 8 A. Well, if you look at the -- at the 9 literature, most fallopian tube cancers begin in 10 the fimbriae. And the fimbriae is sitting right on 11 top of the ovary, which has all that amount of 12 hormone. So it -- in my opinion, it does influence 13 those in the fallopian tube as well. 14 Q. Since 75 or 80 percent of ovarian cancers 15 are serous? 16 A. I said 70, but go ahead. 17 Q. Oh, I'm sorry. Okay, we'll use your 18 numbers. Assuming 70 percent of ovarian cancers 19 are serous, do you have an opinion as to what 20 percentage of those actually start in the fallopian 21 tube? 22 A. Yes, I have an opinion. If we're talking 23 about non-BRCA mutants, probably 90 percent of them 24 start in the ovary. Only ten percent at the most 25 start in the fallopian tube. If we're talking</p>	<p style="text-align: right;">Page 32</p> <p>1 MR. HEGARTY: Turn the next page. 2 MR. DEARING: Which report are you 3 looking at? 4 THE WITNESS: This is the Converse, but 5 it's present in all of them. 6 BY MR. DEARING: 7 Q. Okay. 8 A. It's the first few paragraphs. 9 Q. First few paragraphs of what section? Of 10 the whole thing? 11 A. It would be in the -- 12 MR. HEGARTY: Above the brief clinical 13 history part. 14 MR. DEARING: Okay. 15 THE WITNESS: So almost 25 percent of 16 women diagnosed with ovarian cancer carry germline 17 mutations in cancer susceptibility genes, including 18 BRCA1 and BRCA2. 19 BY MR. DEARING: 20 Q. Okay. 21 A. BRCA1 and BRCA2 account for approximately 22 15 percent of germline mutations, with the other 23 cancer-associating genes -- and then I give a list 24 of -- a long list accounting for the rest. 25 Q. Right. So 15 percent of 25 percent is</p>
<p style="text-align: right;">Page 31</p> <p>1 about BRCA mutants, the proportion is almost 2 exactly reversed. About 80 percent will start in 3 the fallopian tube and 20 percent in the ovary. 4 Q. Is it fair to say that only about five 5 percent of ovarian cancers -- I'm sorry -- only 6 five percent of women diagnosed with ovarian cancer 7 carry the BRCA1 and BRCA2 mutation? 8 A. You know, I haven't -- I haven't thought 9 about the numbers lately, but I think it's higher 10 than five percent. 11 Q. Well, I've read that only -- only 12 15 percent or so of all ovarian cancers are thought 13 to be derived from genetic predisposition or -- or 14 inherited mutations. Is that a fair number? 15 MR. HEGARTY: Objection to the form. 16 THE WITNESS: I'm going to check my 17 report, because I comment on that in my report. 18 BY MR. DEARING: 19 Q. Okay. I didn't remember that. Is there 20 one -- is there a report you're going to first? 21 A. It's in all of them, so... 22 Q. Okay. All right. 23 MR. HEGARTY: I can show him where I 24 think he wants to look at. 25 MR. DEARING: Sure. Of course.</p>	<p style="text-align: right;">Page 33</p> <p>1 what percent to the overall population of women 2 with cancer? 3 A. No, I think 15 percent of all women with 4 ovarian cancer carry germline mutations in BRCA1 5 and BRCA2. 6 Q. Okay. This says 25 percent of women 7 diagnosed with ovarian cancer carry germline 8 mutations. And then it says approximately 9 15 percent of germline mutations -- I'm 10 sorry -- BRCA1 and BRCA2 account for approximately 11 15 percent of germline mutations. So aren't you 12 talking about 15 percent of the 25 percent? 13 A. The way I worded it, that would be it. 14 But I'm pretty sure it's 15 percent of all germline 15 mutations. 16 Q. Okay. That's where I got my five 17 percent. It's actually 3.5, 3.7 percent. Okay. 18 So I understand that all ovarian 19 cancers are caused by some kind of genetic defect, 20 whether it's a mismatch, replication, or something. 21 And as I understand your testimony, in your 22 opinion, the only known cause of that mismatch 23 carcinogenesis is an inherited mutation; right? 24 MR. HEGARTY: Objection to the form. 25 BY MR. DEARING:</p>

<p style="text-align: right;">Page 34</p> <p>1 Q. Other than the fact that it can happen on 2 its own sporadically, the only known cause of the 3 damage is an inherited gene mutation? 4 MR. HEGARTY: Object to the form. 5 THE WITNESS: The only association strong 6 enough to -- to claim that it's causal is a -- a 7 mutation in one of those genes, yes. 8 BY MR. DEARING: 9 Q. And when you're discerning the cause in 10 an association that's strong enough, what would be 11 a relative risk range where you think, okay, now 12 that's a causal association? 13 MR. HEGARTY: Objection to the form. 14 THE WITNESS: I -- I've tried to make 15 that assessment. I don't think there is a line 16 anywhere. I think that associations that are above 17 two or three are very strong associations that are 18 worth investigating. But again, there is no line. 19 There are very, very strong associations that turn 20 out to be nothing. 21 BY MR. DEARING: 22 Q. Right. 23 A. Like -- 24 Q. You talked about that in your report. 25 A. Correct. And then there are associations</p>	<p style="text-align: right;">Page 36</p> <p>1 Q. Even at two percent is indeterminate? 2 MR. HEGARTY: Objection to form. 3 THE WITNESS: Yeah. It's a weak 4 association. Indeterminate meaning I wouldn't -- 5 if I was in Vegas, I wouldn't bet on it. 6 BY MR. DEARING: 7 Q. So is there a degree of certainty that 8 you would require before you would acknowledge or 9 agree that something is likely to be a cause of a 10 particular cancer? 11 A. So it is my opinion that associations are 12 extremely important to know about so that you can 13 investigate it. In and by itself, an association 14 is not causal. Obviously if you ever got an 15 association where a hundred percent of people got 16 something, whereas if they didn't have it, 17 zero percent would get it, then I would say yeah, 18 that's causal. But other than that, you have to 19 prove it. And to prove it, you have to show a 20 mechanism. And that's the way science should work. 21 Q. Right. I guess what we're talking about 22 here is assessment of risk. And so if you're 23 looking at a relative risk, let's say in the 1.5 to 24 two range, would you think that that risk warrants 25 further investigation?</p>
<p style="text-align: right;">Page 35</p> <p>1 like the association with BRCA. You were talking 2 its either five or 15 percent. It's really low, 3 right? It's very, very low. But somebody chased 4 it, and it was true. So it can be -- you know, a 5 15 percent is -- is a relative risk of 1.15. 6 So -- so -- and that's the problem 7 with biology. It's not physics where you can have 8 a number. It's -- it's biology. 9 Q. And I appreciate that. That's why I 10 asked you sort of a range. 11 A. Yeah. 12 Q. But you think a two- to three-fold 13 increased risk is a strong association? 14 A. I believe that it -- certainly a three 15 increase in relative risk is a strong association. 16 Q. How would you characterize a doubling of 17 a risk, a twofold increased risk? 18 A. A doubling of the risk? 19 Q. Right. So you're talking about three, 20 but I'm going down to two. How would you 21 characterize two as far as a strength of 22 association? 23 A. And again, I'm not a statistician, so 24 this is an opinion. I would say it's 25 indeterminate.</p>	<p style="text-align: right;">Page 37</p> <p>1 MR. HEGARTY: Objection to form. 2 THE WITNESS: Yes. I think any risk 3 is -- is -- warrants further investigation. 4 BY MR. DEARING: 5 Q. And if that risk proved to be, after 6 further investigation, truly between a 1.5 and two 7 relative risk, if that risk was associated with a 8 commercial product, do you think that that would 9 warrant a warning to the user of that product? 10 MR. HEGARTY: Objection to the form. 11 Calls for speculation. 12 THE WITNESS: So when you say further 13 investigation shows that there's still a 1.5 risk, 14 that doesn't make sense. Because further 15 investigation needs to show a cause, either a 16 biologic or a physical cause. Exposure to 17 radiation gives you certain types of cancers. 18 There's an association with that. Then you go to 19 the laboratory or to the clinic -- no, 20 laboratory -- and you say why would it cause 21 cancer. And then you see that radiation causes 22 direct damage to DNA. Now you have the 23 association, hey, people exposed to radiation get 24 cancer. Go into the laboratory and you say hey, 25 when you look at the cells that are exposed to</p>

<p style="text-align: right;">Page 38</p> <p>1 radiation, they have DNA damage. Now you've linked</p> <p>2 the risk to a cause. And that's what you need to</p> <p>3 say that something is causal.</p> <p>4 BY MR. DEARING:</p> <p>5 Q. Well, isn't it true that scientists went</p> <p>6 years, maybe decades, looking at tobacco and lung</p> <p>7 cancer before they realized how it was causing lung</p> <p>8 cancer, but the association was clear decades</p> <p>9 before the how was ever proven; right?</p> <p>10 MR. HEGARTY: Objection to the form.</p> <p>11 THE WITNESS: I don't think -- and I</p> <p>12 don't know enough history on tobacco to say that</p> <p>13 you're right or wrong, but the toxins in tobacco</p> <p>14 smoke were shown very early in the process, and</p> <p>15 whether they were hiding it or whether they were</p> <p>16 not motivated to pursue it -- after all, four out</p> <p>17 of every five doctors smoked Clarks.</p> <p>18 BY MR. DEARING:</p> <p>19 Q. Have you ever published or lectured on</p> <p>20 any topics associated with talcum powder?</p> <p>21 A. I have not.</p> <p>22 Q. You mentioned briefly some epidemiology</p> <p>23 studies in your report. But in my opinion, there's</p> <p>24 not a lot of depth to the explanation. Are you</p> <p>25 intending to offer epidemiology opinions at trial?</p>	<p style="text-align: right;">Page 40</p> <p>1 prospective studies that are not blinded or -- but</p> <p>2 they are randomized. And then after that is</p> <p>3 prospective studies that are not randomized. And</p> <p>4 then after that is retrospective studies, and then</p> <p>5 after that is opinion, or something along those</p> <p>6 lines.</p> <p>7 Q. Where would you rate meta-analyses and</p> <p>8 systematic reviews?</p> <p>9 A. Because I'm not an epidemiologist, I</p> <p>10 don't have the knowledge base to place it. Because</p> <p>11 meta-analyses are actually a relatively new thing.</p> <p>12 And some people think that they are very high in</p> <p>13 the level of evidence, and some people basically</p> <p>14 think well, garbage in, garbage out, right?</p> <p>15 If you have 100 really bad studies and</p> <p>16 you put them all together, does that give you a</p> <p>17 really good study? So my opinion is guarded</p> <p>18 regarding meta-analyses. Obviously, there</p> <p>19 are -- there are some meta-analyses that have</p> <p>20 proven true by doing a randomized double blind</p> <p>21 study and the same result occurs.</p> <p>22 And a very good friend of mine,</p> <p>23 Malcolm Pike, gave an entire lecture regarding a</p> <p>24 bunch of retrospective meta-analyses that predicted</p> <p>25 the outcome of a prospective randomized study. But</p>
<p style="text-align: right;">Page 39</p> <p>1 MR. HEGARTY: Objection to the form.</p> <p>2 THE WITNESS: I'm -- I'm only going to</p> <p>3 opine that prospective studies carry more</p> <p>4 credibility than retrospective studies, and</p> <p>5 that -- and that the prospective studies that have</p> <p>6 been done regarding talcum ovarian cancer failed to</p> <p>7 show an association.</p> <p>8 BY MR. DEARING:</p> <p>9 Q. Okay. Have you taken courses in</p> <p>10 epidemiology?</p> <p>11 A. I took one in medical school.</p> <p>12 Q. Right.</p> <p>13 A. That's about it.</p> <p>14 Q. Okay. What is the source of your opinion</p> <p>15 that prospective studies are more reliable than</p> <p>16 retrospective studies?</p> <p>17 A. So it's not me saying that. When you</p> <p>18 look at levels of -- it was in the front of my</p> <p>19 mind, and -- levels of evidence. There's five</p> <p>20 levels of evidence. I believe the most robust is a</p> <p>21 double blind prospective randomized study. That's</p> <p>22 the panacea, right? Nobody knows anything until</p> <p>23 the very end, and then you find out whether</p> <p>24 something had to do with an effect.</p> <p>25 After that, the fourth level is</p>	<p style="text-align: right;">Page 41</p> <p>1 others don't. So it just depends. And I -- I</p> <p>2 think that generalizing meta-analyses as better or</p> <p>3 worse is not a very good practice.</p> <p>4 Q. The last question asked what was the</p> <p>5 source of your opinions about this. You said these</p> <p>6 aren't my opinions, and you told us about the</p> <p>7 levels. But where are you getting this information</p> <p>8 from?</p> <p>9 A. These are published. And I -- I can't</p> <p>10 quote you the article, but these are well-respected</p> <p>11 epidemiologists who got together and formulated</p> <p>12 these five levels of evidence. And -- and most</p> <p>13 people follow them.</p> <p>14 And if you look at guidelines, for</p> <p>15 example -- so I worked at one point with the</p> <p>16 American Society of Colposcopy and Cervical</p> <p>17 Pathology, and I was on the high-grade dysplasia</p> <p>18 committee, and we published guidelines. If a woman</p> <p>19 has a PAP smear that's like this, what should you</p> <p>20 do. And then we would say you should biopsy</p> <p>21 through colposcopy, and then we would state level</p> <p>22 of evidence. Level of evidence is -- level for</p> <p>23 evidence or whatever. Because there are</p> <p>24 prospective trials showing that cytology predicts</p> <p>25 pre-cancer.</p>

<p style="text-align: right;">Page 42</p> <p>1 So those are -- most of the guidelines</p> <p>2 will have levels of evidence. So if you go to any</p> <p>3 of the large societies that publish guidelines,</p> <p>4 they will use those five categories.</p> <p>5 Q. Well, would you agree that epidemiology,</p> <p>6 like most areas of science, is an evolving science?</p> <p>7 In other words, what people thought 30 years ago</p> <p>8 may not be how they think about something now?</p> <p>9 MR. HEGARTY: Objection to the form.</p> <p>10 THE WITNESS: I -- I agree with your</p> <p>11 comment. All science evolves as knowledge becomes</p> <p>12 available. And if it doesn't, then you're just</p> <p>13 being dumb about it.</p> <p>14 BY MR. DEARING:</p> <p>15 Q. I saw in your CV that you actually</p> <p>16 participated in a case control study. And before I</p> <p>17 ask you -- on ovarian cancer. And before I ask you</p> <p>18 about that, would you agree with me that case</p> <p>19 control studies, despite where they may fall on</p> <p>20 this hierarchal of evidence, can provide very</p> <p>21 useful, helpful information with regard to</p> <p>22 associations?</p> <p>23 A. There's no --</p> <p>24 MR. HEGARTY: Objection to the form.</p> <p>25 THE WITNESS: There's no question that</p>	<p style="text-align: right;">Page 44</p> <p>1 epidemiologists to do that?</p> <p>2 A. Hopefully.</p> <p>3 Q. It won't be me.</p> <p>4 I see you brought materials with you</p> <p>5 today. You have several binders. Were those</p> <p>6 provided to you by the lawyers?</p> <p>7 A. Yes, they were provided to me by the</p> <p>8 attorneys for the defense. The materials that</p> <p>9 refer to my opinions were authored by me. The</p> <p>10 materials that I referred to were authored by your</p> <p>11 experts also.</p> <p>12 Q. Okay.</p> <p>13 A. But they're in there.</p> <p>14 Q. Oh, the plaintiff expert reports are in</p> <p>15 the binders?</p> <p>16 A. Yeah. Yes.</p> <p>17 Q. I mentioned this before, but we were sent</p> <p>18 some very large data files two days ago that I</p> <p>19 assume are mostly photomicrographs. But because of</p> <p>20 the volume of the data, we were unable to download</p> <p>21 them and get them opened in any useable way. Did</p> <p>22 you bring photomicrographs with you in addition to</p> <p>23 the ones that are already incorporated into your</p> <p>24 reports?</p> <p>25 A. I did not.</p>
<p style="text-align: right;">Page 43</p> <p>1 that's true. They provide very useful information.</p> <p>2 And in fact, case control studies are probably the</p> <p>3 beginning of most fact-finding journeys in</p> <p>4 medicine.</p> <p>5 BY MR. DEARING:</p> <p>6 Q. Is it true also that case control studies</p> <p>7 can often formulate or postulate an association</p> <p>8 faster than a cohort study because you don't have</p> <p>9 to wait for the end disease to occur years down the</p> <p>10 road?</p> <p>11 MR. HEGARTY: Objection to the form.</p> <p>12 THE WITNESS: That is correct. That's</p> <p>13 one of the advantage of case cohort studies.</p> <p>14 BY MR. DEARING:</p> <p>15 Q. Back to what started this whole thing.</p> <p>16 Other than just a statement about the hierarchal</p> <p>17 reliability of case control versus cohort studies,</p> <p>18 do you intend to discuss any of the specific</p> <p>19 detailed epidemiology studies that you mention in</p> <p>20 your report at trial?</p> <p>21 MR. HEGARTY: Objection to form.</p> <p>22 THE WITNESS: I do not intend to do so,</p> <p>23 no.</p> <p>24 BY MR. DEARING:</p> <p>25 Q. 'Cause both sides will be calling</p>	<p style="text-align: right;">Page 45</p> <p>1 Q. Okay.</p> <p>2 A. The -- the files that you're referring to</p> <p>3 are accessible. And I can almost certainly</p> <p>4 download one, maybe. This is an air book computer,</p> <p>5 and they're fairly limited storage space. The</p> <p>6 files are usually one-and-a-half gigabytes in size.</p> <p>7 But the -- basically those files -- each file</p> <p>8 represent one glass slide of the surgical pathology</p> <p>9 case of that patient.</p> <p>10 So in the case of Ms. Balderrama,</p> <p>11 which I actually -- I don't have yet, it would be</p> <p>12 about a hundred of them, a hundred slides.</p> <p>13 Q. Okay. What do you mean you don't have</p> <p>14 yet?</p> <p>15 A. They're currently being -- I'm maybe not</p> <p>16 remembering right, but I have one case that's</p> <p>17 currently being digitized.</p> <p>18 Q. Okay.</p> <p>19 A. And it's not in my computer file yet. If</p> <p>20 it becomes important for you to see those, we can</p> <p>21 walk to my office, which is about a five-minute</p> <p>22 walk, and I can show you all of them in my desktop.</p> <p>23 MR. DEARING: Well, more importantly than</p> <p>24 me being able to see them is us being able to</p> <p>25 attach relevant photomicrographs as exhibits to</p>

<p style="text-align: right;">Page 46</p> <p>1 this deposition. But what I could do is I'd like</p> <p>2 to just reserve the ability to examine the doctor</p> <p>3 at some future date when we actually have the</p> <p>4 photomicrographs, if it's necessary, to point out</p> <p>5 relevant features that he thinks bear on our</p> <p>6 clients' conditions.</p> <p>7 MR. HEGARTY: We're agreeable to cross</p> <p>8 that bridge if we ever come to it --</p> <p>9 MR. DEARING: Okay.</p> <p>10 MR. HEGARTY: -- through discussions</p> <p>11 between the parties.</p> <p>12 MR. DEARING: Okay. I'm confident we can</p> <p>13 work it out, so...</p> <p>14 BY MR. DEARING:</p> <p>15 Q. Do you know how Johnson & Johnson ever</p> <p>16 learned your name as far as before they approached</p> <p>17 you about investigating this talc ovarian cancer</p> <p>18 issue?</p> <p>19 MR. HEGARTY: Objection to form. Also, I</p> <p>20 know you're not meaning intentionally -- or</p> <p>21 misrepresenting. Johnson & Johnson did not</p> <p>22 approach --</p> <p>23 MR. DEARING: Let me re-ask the question.</p> <p>24 Thank you.</p> <p>25 BY MR. DEARING:</p>	<p style="text-align: right;">Page 48</p> <p>1 A. I have not.</p> <p>2 Q. As you sit here today, can you tell me as</p> <p>3 best that you can recall what other corporations</p> <p>4 you have testified on behalf of?</p> <p>5 MR. HEGARTY: And that would be limited,</p> <p>6 as Mr. Dearing's question said, to those where</p> <p>7 you've actually testified versus those that you</p> <p>8 might have consulted with but were never disclosed</p> <p>9 as an expert and never testified for.</p> <p>10 THE WITNESS: So I -- other than Johnson</p> <p>11 & Johnson, Phillip Morris, and maybe another of the</p> <p>12 tobacco companies.</p> <p>13 BY MR. DEARING:</p> <p>14 Q. That's all? I used to have a longer</p> <p>15 list, but I didn't bring it.</p> <p>16 A. Yeah, I think as far as product liability</p> <p>17 that's it. I mean, Johnson & Johnson and</p> <p>18 Phillip and the tobacco companies.</p> <p>19 Q. And you were first retained by the</p> <p>20 lawyers for Johnson & Johnson about ten years ago.</p> <p>21 Does that sound right?</p> <p>22 A. Yeah, I think the first case was 2012.</p> <p>23 So a little bit more than ten years ago.</p> <p>24 Q. Well, if the first case was in 2012, were</p> <p>25 you retained before 2012?</p>
<p style="text-align: right;">Page 47</p> <p>1 Q. Do you know how the lawyers for Johnson &</p> <p>2 Johnson got your name to approach you about</p> <p>3 possibly being an expert witness in this</p> <p>4 litigation?</p> <p>5 MR. HEGARTY: I'll object and instruct</p> <p>6 you not to respond to the extent that would require</p> <p>7 you to disclose information that the attorneys</p> <p>8 provided to you as part of the -- of our</p> <p>9 communications. But if you can answer apart from</p> <p>10 anything you were told or you learned about from</p> <p>11 discussions with counsel, then you can answer.</p> <p>12 THE WITNESS: I am not completely certain</p> <p>13 about how they learned from me, other than at the</p> <p>14 time I was working very closely with Bob Kerman,</p> <p>15 and I know Bob has been an expert for the defense.</p> <p>16 And my -- my best guess is that Bob gave them my</p> <p>17 name as a possible expert.</p> <p>18 BY MR. DEARING:</p> <p>19 Q. Okay. Have you ever been a paid speaker</p> <p>20 for Johnson & Johnson or any Johnson & Johnson</p> <p>21 company?</p> <p>22 A. I have not.</p> <p>23 Q. Have you ever received any contributions</p> <p>24 or funding or research grants from Johnson &</p> <p>25 Johnson or any of their companies?</p>	<p style="text-align: right;">Page 49</p> <p>1 A. Probably, but I -- no exact memory of it.</p> <p>2 The only way I figured out 2012 is we went back in</p> <p>3 the records and saw that it was 2012.</p> <p>4 Q. It feels like a lifetime to me --</p> <p>5 A. Yeah.</p> <p>6 Q. -- it's been going on.</p> <p>7 A. I mean, I was young back then.</p> <p>8 Q. Same. In those twelve years or so has</p> <p>9 Johnson & Johnson's lawyers ever provided you with</p> <p>10 any internal company documents to review?</p> <p>11 A. They have not. The way that I have seen</p> <p>12 internal company documents is when -- when you show</p> <p>13 them to me. Or not you, but --</p> <p>14 Q. On cross-examination?</p> <p>15 A. -- the attorney -- the attorneys show</p> <p>16 them to me, yes.</p> <p>17 Q. So the only corporate documents you've</p> <p>18 ever seen from Johnson -- strike that.</p> <p>19 So the only Johnson & Johnson</p> <p>20 corporate documents you've ever seen are those that</p> <p>21 were shown to you as part of cross-examination in a</p> <p>22 trial?</p> <p>23 A. That is correct, or deposition.</p> <p>24 Q. There are reference lists attached to all</p> <p>25 of your reports. Did you prepare that reference --</p>

<p style="text-align: right;">Page 50</p> <p>1 those reference lists?</p> <p>2 A. Yes.</p> <p>3 Q. And do you rely on all of those</p> <p>4 references in forming your opinions?</p> <p>5 A. I used those references to form my</p> <p>6 opinions. I'm not -- I guess using them to form my</p> <p>7 opinion and relying on them could be synonyms. But</p> <p>8 I think the legal term "rely" brings some luggage</p> <p>9 with it.</p> <p>10 Q. Okay. Not trying to sneak luggage in on</p> <p>11 you.</p> <p>12 A. Okay.</p> <p>13 Q. Have you read everything that's on your</p> <p>14 reference list?</p> <p>15 A. Yes. At one point or another I've read</p> <p>16 every single one of those articles, which made me a</p> <p>17 lot of money.</p> <p>18 Q. Right. One more question about the</p> <p>19 epidemiology. You list several epidemiology</p> <p>20 studies and articles in your reference list. But</p> <p>21 would you agree with me that epidemiology studies</p> <p>22 don't really inform your pathology opinions in</p> <p>23 these cases?</p> <p>24 A. You're --</p> <p>25 MR. HEGARTY: Objection to the form.</p>	<p style="text-align: right;">Page 52</p> <p>1 body. And I saw it a couple of times in -- in</p> <p>2 ovaries very early on in my training. Back then</p> <p>3 there was still women who had been -- undergone</p> <p>4 surgery, and surgeons had powdered gloves. So I</p> <p>5 saw the sequela of talc in the female pelvis in</p> <p>6 probably a handful of cases.</p> <p>7 So I know what it -- what it does. So</p> <p>8 it never crossed my mind that it would be a cause</p> <p>9 of ovarian cancer. And then I -- I started reading</p> <p>10 more and more about it and -- and -- and formed</p> <p>11 opinions about it.</p> <p>12 Q. Is it your opinion or even common</p> <p>13 knowledge that talc exposure in the pelvis</p> <p>14 will -- will initiate or cause an inflammatory</p> <p>15 reaction?</p> <p>16 MR. HEGARTY: Objection to the form.</p> <p>17 THE WITNESS: A very specific</p> <p>18 inflammatory reaction, absolutely.</p> <p>19 BY MR. DEARING:</p> <p>20 Q. And what specific reaction are you</p> <p>21 referring to?</p> <p>22 A. It will form a foreign body reaction.</p> <p>23 Q. And those foreign body reactions would</p> <p>24 include macrophage activity, granulomas --</p> <p>25 granulomatis activity, and even multi-nucleated</p>
<p style="text-align: right;">Page 51</p> <p>1 THE WITNESS: So they inform it a little</p> <p>2 bit.</p> <p>3 BY MR. DEARING:</p> <p>4 Q. Okay.</p> <p>5 A. In other words, epidemiologic studies say</p> <p>6 there's an association between talc and ovarian</p> <p>7 cancer. So I go to the microscope and I say well,</p> <p>8 is there any evidence that there's talc present in</p> <p>9 the ovary while the ovary was vital, meaning in the</p> <p>10 person's body. So in that way it does influence</p> <p>11 me, because -- I look at ovaries very, very</p> <p>12 differently since we began this litigation process.</p> <p>13 Q. Okay. I believe you've testified years</p> <p>14 ago, maybe more recently, that you actually learned</p> <p>15 about the effects of talc in the human body in</p> <p>16 medical school; is that right?</p> <p>17 MR. HEGARTY: Objection to the form.</p> <p>18 THE WITNESS: It is likely so, yes.</p> <p>19 BY MR. DEARING:</p> <p>20 Q. Did you have any opinions about talcum</p> <p>21 powder and ovarian cancer before the lawyers for</p> <p>22 Johnson & Johnson approached you about serving as</p> <p>23 an expert in this litigation?</p> <p>24 A. To tell you the truth, it never crossed</p> <p>25 my mind, because I know what talc does inside the</p>	<p style="text-align: right;">Page 53</p> <p>1 giant cell activity?</p> <p>2 MR. HEGARTY: Object to the form.</p> <p>3 THE WITNESS: So it will cause what</p> <p>4 in -- in pathology and medicine is called a</p> <p>5 granulomatous reaction. Granulomatous --</p> <p>6 granulomas are formed by three types of cells, two</p> <p>7 of which are very closely related. One of them is</p> <p>8 a macrophage. The other one is the foreign body</p> <p>9 giant cell. I'm sorry. One of them is the</p> <p>10 microphage. The other one is the multinucleated</p> <p>11 giant cell. And the third is the lymphocyte, okay?</p> <p>12 Now, there are two types of</p> <p>13 granulomas. There are immune granulomas, which are</p> <p>14 generated by -- most of them -- infectious organism</p> <p>15 such as tuberculosis or fungi, and then there's the</p> <p>16 foreign body granulomas which are formed by foreign</p> <p>17 bodies.</p> <p>18 BY MR. DEARING:</p> <p>19 Q. Is it true to say that granulomas are</p> <p>20 essentially a conglomeration of macrophages all</p> <p>21 coming together?</p> <p>22 MR. HEGARTY: Objection to the form.</p> <p>23 THE WITNESS: It is -- it is a -- your</p> <p>24 description very much describes what a granuloma</p> <p>25 is.</p>

<p style="text-align: right;">Page 54</p> <p>1 BY MR. DEARING:</p> <p>2 Q. When you were observing those effects of</p> <p>3 talc in the female pelvis, did you ever actually</p> <p>4 look at the talc particles that were left behind?</p> <p>5 A. Yes.</p> <p>6 Q. And would you agree with me that those</p> <p>7 talc particles -- the size of those talc particles</p> <p>8 would dictate the type of response? In other</p> <p>9 words, if the particle left behind was five microns</p> <p>10 in diameter, that would most likely attract a</p> <p>11 macrophage. If it was a hundred microns in</p> <p>12 diameter, that might attract something larger.</p> <p>13 Would you agree?</p> <p>14 MR. HEGARTY: Objection to the form.</p> <p>15 THE WITNESS: As a general rule, that is</p> <p>16 correct. But I have seen foreign body granuloma</p> <p>17 with foreign body giant cells in particles as small</p> <p>18 as three microns. And I have photographs of that.</p> <p>19 So -- so as a general rule, the smaller particles</p> <p>20 are phagocytized by macrophages. The larger</p> <p>21 particles cannot be phagocytized because they're</p> <p>22 too large for the macrophage to engulf the</p> <p>23 particle, so then that causes a granuloma.</p> <p>24 BY MR. DEARING:</p> <p>25 Q. Okay. Is it also true that sometimes</p>	<p style="text-align: right;">Page 56</p> <p>1 not for very long.</p> <p>2 BY MR. DEARING:</p> <p>3 Q. Do you agree that once tissue's removed</p> <p>4 from the body, all inflammatory processes, all</p> <p>5 macrophages, everything just stops?</p> <p>6 A. You are --</p> <p>7 Q. In other words, the cells die and nothing</p> <p>8 else happens?</p> <p>9 A. You are correct. Within probably seconds</p> <p>10 of the organ being devitalized, those processes</p> <p>11 will stop.</p> <p>12 Q. Is it also true that macrophages may be</p> <p>13 attracted to dead cancer cells?</p> <p>14 A. Absolutely.</p> <p>15 Q. And it's not uncommon to actually see a</p> <p>16 macrophage sequester a dead cancer cell; right?</p> <p>17 A. The macrophages engulf the rest of the</p> <p>18 cells. Once the cell dies, most of the time it</p> <p>19 fragments and then the macrophage will eat the</p> <p>20 fragments of the -- of the dead cell.</p> <p>21 Q. When you are looking at surgical slides</p> <p>22 from an ovarian cancer patient under routine</p> <p>23 microscopy, do you typically observe macrophages,</p> <p>24 or is that something you're just not looking for?</p> <p>25 A. Oh, no, we look for it very carefully for</p>
<p style="text-align: right;">Page 55</p> <p>1 macrophages die during the phagocytosis process for</p> <p>2 whatever reason, either they can't adequately</p> <p>3 sequester and phagocytize the particle or the</p> <p>4 particles's just too big?</p> <p>5 MR. HEGARTY: Objection to form.</p> <p>6 THE WITNESS: You are correct,</p> <p>7 there -- there is a phag -- a macrophage can die in</p> <p>8 the process of phagocytosis.</p> <p>9 BY MR. DEARING:</p> <p>10 Q. And when that occurs, more macrophages</p> <p>11 typically come to take its place; is that right?</p> <p>12 A. Yes. A naked particle cannot exist</p> <p>13 without a foreign body reaction to it.</p> <p>14 Q. But wouldn't you agree that there may be</p> <p>15 a transition period where a macrophage dies,</p> <p>16 another macrophage has not taken it up yet, and the</p> <p>17 particle is just sitting there by itself?</p> <p>18 MR. HEGARTY: Objection to the form.</p> <p>19 THE WITNESS: Yeah, I -- I -- I'm not</p> <p>20 sure anybody can answer that question because</p> <p>21 usually it's not just one macrophage that shows up.</p> <p>22 When there's a foreign body, probably thousands of</p> <p>23 macrophages are -- are around. Will there be a</p> <p>24 point of a macrophage dies where that particle is</p> <p>25 exposed to tissue itself? Likely. Likely. But</p>	<p style="text-align: right;">Page 57</p> <p>1 a variety of reasons. Many cases of ovarian</p> <p>2 cancer today, as opposed to 30 years ago, have</p> <p>3 what -- have undergone what's called neoadjuvant</p> <p>4 chemotherapy, where the woman receives chemo before</p> <p>5 the surgery. And actually one of the parameters</p> <p>6 that is non-optional in our synoptic forms is the</p> <p>7 effect of chemotherapy on the tumor. And we</p> <p>8 measure that predominantly by the presence of</p> <p>9 macrophages.</p> <p>10 So there -- in the case a woman will</p> <p>11 have received chemotherapy and we'll see massive</p> <p>12 amounts of macrophages and only a little bit of</p> <p>13 tumor then we -- we categorize that as an excellent</p> <p>14 response. If there are some macrophages but a lot</p> <p>15 of tumor left, we'll say moderate response. And if</p> <p>16 we can't see any evidence of macrophages, we'll say</p> <p>17 minimal response.</p> <p>18 I'll -- I'll categorize it by saying</p> <p>19 that it's -- that it's not a perfect attempt to</p> <p>20 categorize the effect of chemotherapy on the tumor</p> <p>21 because there are cases where radiologically the</p> <p>22 woman had large ascites, an enormous amount of</p> <p>23 carcino -- carcinomatosis in the omentum and</p> <p>24 peritoneum, and at the time of surgery, there's</p> <p>25 very little tumor. And we'll look at it under the</p>

<p style="text-align: right;">Page 58</p> <p>1 microscope and there won't be a single macrophage. 2 And I can't explain that, but it happens. So -- 3 and, again, biology, it's not physics. 4 Q. In cases where women have not had 5 neoadjuvant chemotherapy are you also looking for 6 macrophages in typical cervical slides? 7 A. Yes. So tumors will have a cell turnover 8 for a variety of reasons. Some people use the term 9 they outgrow their blood supply and large areas of 10 that tumor become necrotic. So we -- we will 11 frequently find macrophages. 12 The other thing that -- that a lot of 13 people don't know is that just because a woman has 14 cancer doesn't mean she may not have other 15 diseases. And in -- in my practice I have 16 discovered at least five women who have had -- who 17 had tuberculosis in addition to their ovarian 18 cancer. And I found that out because there were 19 granulomas, and I stained them, and there were 20 microbacteria in them, so... 21 And that can be really important 22 because -- particularly if she hasn't received 23 neoadjuvant chemotherapy and she has tuberculosis, 24 and then you give her chemotherapy and you make her 25 immune deficient, she can die of the tuberculosis.</p>	<p style="text-align: right;">Page 60</p> <p>1 BY MR. DEARING: 2 Q. Is it also true that most pathologists, 3 surgical pathologists, will not polarize the slides 4 when they're looking at the surgical slides? 5 MR. HEGARTY: Objection to form. 6 THE WITNESS: Not unless there's a reason 7 to. And the reason would be granuloma. 8 MR. DEARING: Okay. We've been going 9 about an hour and a half. Does anybody need a 10 break? 11 MR. HEGARTY: Yeah, I could use a short 12 break. 13 MR. DEARING: Okay. 14 (Break taken.) 15 BY MR. DEARING: 16 Q. We were talking about the inflammatory 17 reactions on the pelvis left by -- or caused by the 18 talc left behind from abdominal surgeries. And my 19 question is, you said you observed granulomas and 20 granulomatous reactions. Do you have any opinion 21 about whether a chronic inflammation like that in 22 the pelvis can cause metaplasia or -- can initiate 23 a cancer process? 24 MR. HEGARTY: Objection to the form. 25 THE WITNESS: I do have an opinion.</p>
<p style="text-align: right;">Page 59</p> <p>1 So -- so it's really important for us to look at. 2 Q. I appreciate that. And that sort of 3 seems like cutting-edge pathology. But based on 4 your experience as a pathologist -- and you've 5 worked other places. I know you were at USC for a 6 long time -- isn't it true that most surgical 7 pathologists, when they're looking, spending a few 8 minutes to diagnose a patient, that they're not 9 looking for macrophages in those slides? 10 MR. HEGARTY: Objection to form. 11 THE WITNESS: So it depends on the level 12 of macrophages, okay? Most even community 13 pathologists, if they find increased numbers of 14 macrophages, they will not only detect it, but 15 likely try to find an explanation for it. And 16 there are things called xanthomonas reactions that 17 are associated with genetic conditions that -- that 18 are important to detect, so... 19 And again, another example, there 20 are macrophages in virtually every tissue that we 21 examine as pathologists. And it's normal to expect 22 a macrophage in a tissue section. If it's the 23 level -- if it's at the level of what is normally 24 found in tissue, most pathologists will not focus 25 on it.</p>	<p style="text-align: right;">Page 61</p> <p>1 BY MR. DEARING: 2 Q. What is that opinion? 3 A. Granulomatous inflammation has not been 4 associated with carcinoma. 5 Q. What negative health effects can a 6 chronic inflammatory reaction cause in the pelvis? 7 MR. HEGARTY: Objection to form. 8 BY MR. DEARING: 9 Q. If any? 10 A. Yes. It can cause and it does cause 11 adhesions, meaning one organ sticks to another. 12 Adhesions are a source of pelvic pain in women. It 13 is also a cause of infertility. So pain and 14 infertility are the two sequela of talc-induced 15 chronic inflammation. 16 Q. Do you know about how many hours you've 17 spent researching before you conclude that talc can 18 cause cancer? You know what, let me ask a 19 pre-cursor question to that. I'm sorry. 20 Is it your opinion that talc exposure 21 cannot cause any kind of cancer anywhere in the 22 body? 23 A. That is my opinion in the -- in the parts 24 of the body that I'm aware talc has been used. 25 Q. Okay. And do you know how much time you</p>

<p style="text-align: right;">Page 62</p> <p>1 spent researching to come to that conclusion?</p> <p>2 A. Many, many, many hours.</p> <p>3 Q. Did you research that issue prior to</p> <p>4 being retained by the lawyers for Johnson &</p> <p>5 Johnson?</p> <p>6 A. No. Not to any depth, no.</p> <p>7 Q. So then after you were retained by the</p> <p>8 lawyers for Johnson & Johnson, is it fair to say</p> <p>9 that's when you first started investigating whether</p> <p>10 talc can cause cancer in the parts of the body that</p> <p>11 you're familiar with?</p> <p>12 MR. HEGARTY: Objection, form.</p> <p>13 THE WITNESS: In an organized fashion,</p> <p>14 yes.</p> <p>15 BY MR. DEARING:</p> <p>16 Q. And do you know how many hours of</p> <p>17 research you conducted before you reached a final</p> <p>18 conclusion that talc can't cause cancer?</p> <p>19 A. I mean, if you look at my reliance list,</p> <p>20 it -- it -- I've read all of those articles to make</p> <p>21 sure that I was not opining without basis. So</p> <p>22 probably, you know, a hundred hours.</p> <p>23 Q. Did you have any preconceived notions</p> <p>24 about the idea when Johnson & Johnson lawyers first</p> <p>25 approached you, the idea being whether talc can</p>	<p style="text-align: right;">Page 64</p> <p>1 talc-related opinions with any of your colleagues</p> <p>2 here?</p> <p>3 A. No, not with any -- I may have mentioned</p> <p>4 it in casual conversation, but not as a topic of</p> <p>5 interest -- sorry, not as a topic of medical</p> <p>6 discussion. I may have said, yeah, I'm -- I'm</p> <p>7 going to be -- I'm examining this case that relates</p> <p>8 to talc and ovarian cancer.</p> <p>9 Q. Okay. But not substantively about your</p> <p>10 opinions?</p> <p>11 A. Correct.</p> <p>12 Q. Have you ever showed anyone here your</p> <p>13 expert report?</p> <p>14 A. Anyone at MCW?</p> <p>15 Q. Yes.</p> <p>16 A. No.</p> <p>17 Q. What about when you were at USC, did you</p> <p>18 ever show any of your colleagues there your expert</p> <p>19 reports?</p> <p>20 A. No.</p> <p>21 Q. Has the topic of genital talc use in</p> <p>22 ovarian cancer ever come up in your rounds or tumor</p> <p>23 boards or group meetings?</p> <p>24 A. It has not.</p> <p>25 Q. Have you ever published on anything</p>
<p style="text-align: right;">Page 63</p> <p>1 initiate or cause ovarian cancers?</p> <p>2 MR. HEGARTY: Objection to the form.</p> <p>3 THE WITNESS: As I mentioned earlier, it</p> <p>4 never occurred to me.</p> <p>5 BY MR. DEARING:</p> <p>6 Q. Are the administrators of the Medical</p> <p>7 College of Wisconsin aware of the fact that you're</p> <p>8 offering opinion testimony in this ongoing</p> <p>9 litigation?</p> <p>10 A. They're aware that I do medicolegal</p> <p>11 consulting.</p> <p>12 Q. Okay. Do you ever have to run your</p> <p>13 opinions by anyone at the Medical College of</p> <p>14 Wisconsin before you go under oath offering them</p> <p>15 somewhere?</p> <p>16 A. I do not.</p> <p>17 Q. Is there a process at MCW whereby you</p> <p>18 advise the administration that you're doing legal</p> <p>19 work for a company?</p> <p>20 A. Yes. There is an annual conflict of</p> <p>21 interest disclosure that I fill out in which I put</p> <p>22 all of the -- not all of them, but the law firms</p> <p>23 that I work with and the issues that they -- that</p> <p>24 are involved.</p> <p>25 Q. Okay. Have you discussed your</p>	<p style="text-align: right;">Page 65</p> <p>1 related to the causes or risk factors of ovarian</p> <p>2 cancer?</p> <p>3 A. Yes.</p> <p>4 Q. Do you remember what that publication</p> <p>5 was? Was it more than one?</p> <p>6 A. Yes. So I worked with a colleague whose</p> <p>7 name was Louis DuBeau, B-E-A-U. And we looked at</p> <p>8 several genes regarding ovarian cancer and their</p> <p>9 role in ovarian carcinogenesis.</p> <p>10 Q. Do you know when that publication was?</p> <p>11 A. It was in -- I don't remember. I can --</p> <p>12 Q. Is it on your -- is it on your CV?</p> <p>13 A. It's on my CV, yes.</p> <p>14 Q. Okay. Might be easier for you to find it</p> <p>15 than me. If you can just direct me to it.</p> <p>16 A. Sure. So reference number 21, the</p> <p>17 potential role of inactivated X chromosome in</p> <p>18 ovarian epithelial tumor development.</p> <p>19 Q. Okay. I don't see Dr. DuBeau's name.</p> <p>20 A. He's --</p> <p>21 Q. Oh, yes, I do. Yes, I do.</p> <p>22 A. He was the senior author.</p> <p>23 Q. Is that the only publication?</p> <p>24 A. No, the one beneath it as well. And then</p> <p>25 24, alterations in DNA methylation are early but</p>

<p style="text-align: right;">Page 66</p> <p>1 not initial events in ovarian tumorigenesis. Then 2 27, this is with Michael Press, WAF1/CIP1, gene 3 polymorphisms, an expression in carcinomas of the 4 breasts, ovary, and endometrium. 5 So I became involved in all of these 6 publications because of my expertise in 7 diagnostics. So as you probably heard, properly 8 classifying tumors is pretty important when you're 9 trying to determine if something causes it or not. 10 Q. Right. Was that your role for the most 11 part in these publications is diagnosing or 12 classifying the tumors? 13 A. Well, at the time I also had a molecular 14 biology laboratory, so I may have done some of the 15 tests in the lab. 34 is another example. 16 MR. HEGARTY: Do you want him to keep 17 going, David? 18 BY MR. DEARING: 19 Q. I mean, I don't want to spend a lot of 20 time on it, but if any jump out at you, I'd like to 21 know about it, particularly with regard to risk 22 factors in ovarian cancer. 23 A. 35, imbalanced expression of inhibin and 24 activin subunits in primary epithelial ovarian 25 cancer.</p>	<p style="text-align: right;">Page 68</p> <p>1 Q. Both. Okay. So have you read studies 2 supporting the idea that chronic inflammation can 3 ultimately lead to cancer? 4 A. Yes, I have read many studies that 5 indicate that. 6 Q. And do you agree that chronic 7 inflammation does cause some types of cancer? 8 A. Yes. 9 Q. I think you mentioned a few in your 10 report. 11 A. Correct. And again, chronic inflammation 12 is a very good term, but it is frequently misused 13 because there are many types of chronic 14 inflammation. There's chronic inflammation that 15 causes cell death in tissues, and there's chronic 16 inflammation that does very little in tissue, or 17 practically nothing. So those are two very 18 different types of chronic inflammation. 19 Q. Which type of chronic inflammation would 20 include the reactive oxygen species being released 21 in an amount that would damage DNA and cause 22 improper replication? 23 A. Again -- 24 MR. HEGARTY: Objection, form. 25 THE WITNESS: Again, reactive oxygen</p>
<p style="text-align: right;">Page 67</p> <p>1 Q. Let me ask you this. What about in the 2 past ten years, have you published anything on 3 ovarian cancer? 4 A. Not to my knowledge, no. 5 Q. Do you have any opinions as to what may 6 cause primary peritoneal cancer, or would it be the 7 same causes we've already discussed for ovarian 8 cancer? 9 A. It would be the same causes, in my 10 opinion. 11 Q. Is it your opinion that most primary 12 peritoneal cancers also derive from the fallopian 13 tube? 14 A. From fallopian tube epithelium, yes. 15 Well, there's -- there's -- the serous ones will be 16 from fallopian tube epithelium. The endometrial 17 ones will be from endometriosis. 18 Q. You've opined that talc cannot cause any 19 type of ovarian cancer. Is that opinion based on 20 your opinion that talc can't reach the ovaries, or 21 that talc doesn't affect the tissue in a way that 22 might cause cancer when it gets to the ovaries? 23 MR. HEGARTY: Objection to form. 24 THE WITNESS: Both. 25 BY MR. DEARING:</p>	<p style="text-align: right;">Page 69</p> <p>1 species damaging DNA have been shown only in cell 2 culture. So there hasn't been shown to -- have not 3 been proven in live organisms. The type of 4 inflammation that causes cancer is long-term 5 destructive inflammation. 6 BY MR. DEARING: 7 Q. Long-term destructive, that's what 8 chronic means; right? 9 A. No, chronic means that it's not acute. 10 It means that it's been there for a long time. 11 Q. Okay. Is chronic, as you're using it, 12 does that mean that it's an ongoing process? 13 A. That is correct. 14 Q. And I think we're using it the same way. 15 A. I don't think so. 16 Q. We'll see. Well, you would agree with 17 me, wouldn't you, that there are many credentialed 18 scientists who do believe that chronic inflammation 19 can cause cell damage that results in 20 carcinogenesis? 21 MR. HEGARTY: Objection to form. 22 THE WITNESS: All of us believe that. 23 BY MR. DEARING: 24 Q. Do you believe that there are reputable 25 scientists that believe that that occurs in the</p>

<p style="text-align: right;">Page 70</p> <p>1 female reproductive tract and, in particular, the 2 ovaries and fallopian tube? 3 MR. HEGARTY: Objection to form. 4 THE WITNESS: There are some scientists, 5 physicians who believe that there are some types of 6 inflammatory processes that increase the risk of 7 cancer such as pelvic inflammatory disease or upper 8 genital tract infection, has a slight association 9 with increased ovarian cancer. 10 BY MR. DEARING: 11 Q. Would you agree with me that some studies 12 do demonstrate a statistically significant increase 13 of ovarian cancer of women who use talc in the 14 genital area? 15 MR. HEGARTY: Objection to the form. 16 THE WITNESS: There are cohort studies 17 that arrive at that conclusion. 18 BY MR. DEARING: 19 Q. Do you agree that if talc were to reach 20 the fallopian tube or ovaries, that you would 21 expect some type of inflammatory reaction by the 22 ovary or fallopian tube tissue? 23 A. By necessity, yes. 24 Q. And would you agree that if the 25 inflammatory response could not adequately</p>	<p style="text-align: right;">Page 72</p> <p>1 the talcum powder? 2 MR. HEGARTY: Objection to form. 3 THE WITNESS: Yes. 4 BY MR. DEARING: 5 Q. Do you have any opinions about whether 6 Johnson's baby powder has ever contained asbestos? 7 A. I have read reports that it found 8 asbestos in talcum powder. 9 Q. Do you have any opinions yourself as to 10 whether the product has contained asbestos in the 11 past? And I'm only saying the past, because it's 12 not on the market now. So at any time. 13 A. Because of those reports that have been 14 done, yes, they -- it probably did contain trace 15 amounts of asbestos. 16 Q. Have you ever seen any testing results 17 from those tests testing the product for asbestos? 18 A. I have not witnessed the -- the testing 19 results personally, no. 20 Q. So when you say you have read reports, 21 are you talking about reports that were just in the 22 general -- 23 A. In summaries -- 24 Q. -- media? 25 A. In summaries like IARC.</p>
<p style="text-align: right;">Page 71</p> <p>1 remediate the exposure, that the inflammatory 2 response could become chronic, in other words, 3 long-term and ongoing? 4 MR. HEGARTY: Objection to form. 5 THE WITNESS: The foreign body reaction, 6 which is the form of chronic inflammation that you 7 expect with talc, would be ongoing for a very long 8 time. 9 BY MR. DEARING: 10 Q. And scientists and physicians refer to 11 that ongoing response, or that ongoing process, as 12 a chronic inflammation; right? 13 MR. HEGARTY: Objection to the form. 14 THE WITNESS: A chronic foreign body 15 inflammation. 16 BY MR. DEARING: 17 Q. Just making sure I'm using it correctly. 18 Words matter, so I want to get them right. 19 A. Sure. 20 Q. So is it your opinion that Johnson's 21 talc-based baby powder is completely safe for women 22 to use in the perineum? 23 A. Yes. 24 Q. And is your opinion about Johnson's baby 25 powder without regard to anything that may be in</p>	<p style="text-align: right;">Page 73</p> <p>1 Q. Okay. Did you ever -- I'm sorry. 2 You testified a while ago that you've 3 not seen any Johnson & Johnson documents other than 4 the ones that have been shown to you during 5 cross-examination, either in a deposition or trial. 6 But did you ever ask to see any documents from 7 Johnson & Johnson? 8 A. No, I did not. 9 Q. So if it was established that Johnson's 10 baby powder did in fact have asbestos in it, is it 11 still your opinion that it's safe for women to use 12 in the perineum? 13 MR. HEGARTY: Objection to form. 14 THE WITNESS: Yes. 15 BY MR. DEARING: 16 Q. What if it was established that the 17 talcum powder had carcinogenic heavy metals like 18 chromium or nickel or arsenic or lead or all of 19 them, would that affect your opinion about whether 20 talcum powder is safe to use in the genital area? 21 MR. HEGARTY: Objection to form. 22 THE WITNESS: No. And may I please 23 explain it? 24 BY MR. DEARING: 25 Q. Of course.</p>

<p style="text-align: right;">Page 74</p> <p>1 A. There is a minimum level of exposure that 2 must be exceeded before something is unsafe. So 3 cosmic radiation, which we are being blasted with 4 right now, is highly carcinogenic. Actually flight 5 attendants have a four-fold increase in breast 6 cancer because they're -- they don't have the 7 atmosphere to protect from many hours each day. 8 You and I are being affected by it but 9 it doesn't increase our risk of cancer. Similarly, 10 if they take your lungs or part of your bladder and 11 they grind it up and look for asbestos, they will 12 find it. There is a base exposure that we are all 13 constantly exposed to that makes us inhale 14 asbestos. 15 There's -- there's probably -- we can 16 detect lead in your body if we looked hard enough. 17 But it's not going to affect you because it's in 18 such small amounts. Even plutonium, if in small 19 enough amount, will not adversely affect you. So 20 those are the reasons why I don't believe that any 21 of those things, if they find minimal trace amounts 22 of talcum powder, would be adverse to your health. 23 Q. Well, would you agree with me that 24 regulatory agencies have stated that there is no 25 safe level of exposure to asbestos?</p>	<p style="text-align: right;">Page 76</p> <p>1 THE WITNESS: Yeah. I mean, it's a crazy 2 question. The levels of asbestos detected in 3 talcum powder are parts per million, not 4 percentages. So it's -- it's just a -- it's a 5 theoretical assumption that I wouldn't know how to 6 approach. 7 BY MR. DEARING: 8 Q. It is a hypothetical for sure. So you 9 don't know what your answer would be if it were 10 established that one percent of the contents of a 11 Johnson's baby powder bottle contained asbestos? 12 MR. HEGARTY: Objection, form. 13 THE WITNESS: I have no idea what 14 asbestos on the skin would do. I don't -- I don't 15 know that. So I can't have an opinion about it. 16 BY MR. DEARING: 17 Q. Well, is it your opinion that talcum 18 powder applied to the perineum cannot enter the 19 vagina? 20 A. Likely not in clinically significant 21 amounts, no. 22 Q. Can you quantify what you mean by 23 clinically significant amount? 24 A. Well, I mean if -- if -- if talcum powder 25 hit the mucosa of the vagina, it would likely do</p>
<p style="text-align: right;">Page 75</p> <p>1 MR. HEGARTY: Objection to form. 2 THE WITNESS: Well, if a regulatory 3 agency said that, then they don't look at the 4 science. Because we all have asbestos in our 5 bodies. And as a matter of fact, they -- when you 6 do asbestos studies, you compare it to the -- to 7 the base background level of asbestos to see if 8 it's elevated. 9 BY MR. DEARING: 10 Q. So do you disagree with the statement 11 that there is no safe level of exposure? 12 A. Yes, I disagree with that statement. 13 Q. Is there some level of asbestos and 14 talcum powder that would change your opinion about 15 the safety of powder applied to the genital area 16 for women? 17 MR. HEGARTY: Objection to form. 18 BY MR. DEARING: 19 Q. For example, if one percent of the 20 contents of a bottle of Johnson's baby powder was 21 chrysotile or tremolite asbestos, would your 22 opinion still be that talcum powder was safe for 23 women to use in the perineum? 24 MR. HEGARTY: Object to the form. Calls 25 for speculation.</p>	<p style="text-align: right;">Page 77</p> <p>1 nothing there because the squamous epithelium would 2 not allow entry of the talc into the submucosa. 3 From examining tens of thousands, hundreds -- maybe 4 reaching 100,000 cervixes, endometrium, fallopian 5 tubes and ovaries, I don't find it there. So I 6 know that it doesn't go there in a quantity 7 sufficient to elicit a reaction. 8 Q. Would that be true also if there were 9 asbestos fibers that were applied to the perineum 10 and it reached the internal structures of the 11 vagina? 12 A. Well, my experience is the same. I have 13 not seen asbestos in cervix, endometrium, fallopian 14 tubes or ovaries. 15 Q. Well, hypothetically then, if asbestos 16 were in the powder that was able to be introduced 17 in the vagina, wouldn't you expect there to be some 18 kind of reaction to the asbestos? 19 A. No, because the asbestos would have to 20 get into the submucosa. That's why -- that's why 21 you -- 22 Q. Tell me where, anatomically, the 23 submucosa is that you're referring to. 24 A. Certainly. So -- 25 Q. Actually, I have a document. I finally</p>

<p style="text-align: right;">Page 78</p> <p>1 get to mark an exhibit. Exhibit 1. Sorry, this is 2 probably elementary to you, but I'm still learning 3 it. 4 So I'm marking as Exhibit 1 what I 5 believe is an anatomic diagram of the female 6 reproductive tract. Does that look like an 7 accurate diagram? 8 A. It's an adequate representation of the 9 genital tract, yes. 10 Q. Is it accurate? I mean -- 11 MR. HEGARTY: Objection to form. 12 BY MR. DEARING: 13 Q. As far as diagrams go. I know in the 14 body things are different, but -- 15 A. It shows the structures in a -- in an 16 adequate way. 17 Q. Okay. I just have to prove -- 18 A. The ovaries -- 19 Q. -- in order to use it, I have to prove 20 that it adequately represents what it says it 21 represents. So does that adequately represent an 22 image of the female reproductive tract? 23 A. Yes. 24 Q. Now tell me what mucosa you're referring 25 to. Where is that?</p>	<p style="text-align: right;">Page 80</p> <p>1 little bit of bleeding, and that's the submucosa. 2 That's where all the blood vessels that 3 feed -- keep the mucosa healthy are. 4 So -- so the -- squamous epithelium is 5 the epithelium that we all have that's very 6 protective. It's designed to be tough, not let 7 things come out of the body or not let things get 8 into the body. That's why you can take a shower 9 and not bloat, right, because the skin doesn't let 10 the water go inside of you. The same thing with 11 the vagina. It protects. It doesn't allow things 12 to get inside of the body. 13 Q. Okay. But we do know things get inside 14 the body from the vagina; right? 15 MR. HEGARTY: Objection to form. 16 THE WITNESS: Yes, but -- but not into 17 the vagina itself. Not into the submucosa of the 18 vagina. You're referring to the travel up the 19 genital tract. 20 BY MR. DEARING: 21 Q. Well, sure, so I'm just thinking -- I 22 mean, sperm, obviously, doesn't get trapped in the 23 mucosa. 24 A. Correct. 25 Q. It's able to travel all the way to the</p>
<p style="text-align: right;">Page 79</p> <p>1 A. The mucosa is the dark pink colored part 2 of the drawing here -- 3 Q. Okay. 4 A. -- of the vagina. The submucosa in the 5 cut section would be the lighter pink. 6 MR. DEARING: Let me mark a second 7 diagram as Exhibit 2. 8 BY MR. DEARING: 9 Q. So this is a cross-section of the 10 anatomy. Would you agree that that's an accurate 11 depiction of the cross-section of the female 12 reproductive tract? 13 A. Yes. 14 Q. Okay. Does that show the mucosa that 15 you're talking about? 16 A. Yes. 17 Q. Okay. Can you show me in that diagram? 18 A. It is the one that's pointing by vagina. 19 Q. Okay. 20 A. The best way to show you the equivalence 21 is if you just touch the inside of your cheek, 22 that's like touching the mucosa of the vagina. 23 Q. Okay. 24 A. Okay? And then the submucosa you would 25 have to scrape the lining off, which would cause a</p>	<p style="text-align: right;">Page 81</p> <p>1 fallopian tube to the uterus. 2 A. Correct. 3 Q. And also as I understand it -- we may 4 talk more about it in a little while -- in the case 5 of endometriosis, do you agree that endometriosis 6 primarily occurs when uterine tissue is sloughed 7 off or somehow removed and travels the same path 8 through the fallopian tube and implants on the 9 ovary? 10 MR. HEGARTY: Objection to form. 11 THE WITNESS: That is the leading 12 hypothesis for endometriosis. 13 BY MR. DEARING: 14 Q. And the mechanism or the -- the -- 15 obviously uterine epithelium doesn't have motility, 16 so it has to get there somehow. Is that by 17 retrograde menstruation, in your opinion? 18 MR. HEGARTY: Objection to form. 19 THE WITNESS: Retrograde menstruation 20 caused by uterine contraction, yes. 21 BY MR. DEARING: 22 Q. And so would you also agree that -- well, 23 that the uterine tissue that sloughs off -- is that 24 the right medical term? What happens to that? 25 A. It is a slough-off.</p>

<p style="text-align: right;">Page 82</p> <p>1 Q. Okay.</p> <p>2 A. It's a --</p> <p>3 Q. Does it get trapped in the mucosa</p> <p>4 as -- the vaginal mucosa as well, or is it able to</p> <p>5 pass through that? I know it's already above it,</p> <p>6 but --</p> <p>7 A. It will not be able to penetrate the</p> <p>8 vaginal mucosa.</p> <p>9 Q. Okay. So I'm not sure why we're talking</p> <p>10 about the vaginal mucosa.</p> <p>11 A. Because -- because I don't see talc</p> <p>12 anywhere in the genital tract. And I look at 50</p> <p>13 samples a day.</p> <p>14 Q. Oh, I see. Okay. Well --</p> <p>15 A. You asked me initially --</p> <p>16 Q. Right.</p> <p>17 A. -- if I thought that talc from the</p> <p>18 perineum could get into the vagina. And I said not</p> <p>19 in clinically significant ways. But if you put</p> <p>20 talc in the vagina, it wouldn't do anything because</p> <p>21 the squamous epithelium is protective. It wouldn't</p> <p>22 let the talc go into the body there. Does it go up</p> <p>23 the genital tract? The answer is no.</p> <p>24 Q. So if talc were to be introduced into the</p> <p>25 vagina and could pass the mucosa, would you expect</p>	<p style="text-align: right;">Page 84</p> <p>1 tissue was vital.</p> <p>2 Q. Well, you agree that there are published</p> <p>3 studies that show talc in ovarian and fallopian</p> <p>4 tube tissue that are within macrophages that are --</p> <p>5 A. No.</p> <p>6 Q. -- published in the literature.</p> <p>7 A. Nope.</p> <p>8 MR. HEGARTY: Objection to form.</p> <p>9 THE WITNESS: Not in ovary or fallopian</p> <p>10 tube. If they are published studies that show it</p> <p>11 in a lymph node in the pelvis, but not in the ovary</p> <p>12 or fallopian tube.</p> <p>13 BY MR. DEARING:</p> <p>14 Q. How, in your opinion, did the talcum get</p> <p>15 to the pelvic lymph nodes?</p> <p>16 A. Well, they didn't show that it was talc,</p> <p>17 by the way. They just saw particles within</p> <p>18 macrophages of a lymph node. There is no evidence</p> <p>19 that those particles were talc.</p> <p>20 So how do particles get into a lymph</p> <p>21 node, into a pelvic lymph node? They can go in</p> <p>22 through abrasion to the perineum, an abrasion in</p> <p>23 the upper thigh.</p> <p>24 (Exhibit 3 marked for identification.)</p> <p>25 BY MR. DEARING:</p>
<p style="text-align: right;">Page 83</p> <p>1 it to be able to travel through the fallopian tube</p> <p>2 much the way endometrial tissue does during</p> <p>3 retrograde menstruation?</p> <p>4 MR. HEGARTY: Objection to form.</p> <p>5 THE WITNESS: I would not expect it to do</p> <p>6 that.</p> <p>7 BY MR. DEARING:</p> <p>8 Q. Why wouldn't it?</p> <p>9 A. Because if it did, I would see it. I</p> <p>10 don't see it. Nobody else sees it either. Nobody</p> <p>11 reports talc in tissues of the genital tract. I</p> <p>12 don't find a single report in the world literature</p> <p>13 about talc being present in tissues of the genital</p> <p>14 tract. Now I'm not talking about --</p> <p>15 Q. You actually cite studies that show that.</p> <p>16 MR. HEGARTY: Let him finish his answer.</p> <p>17 Were you finished?</p> <p>18 BY MR. DEARING:</p> <p>19 Q. I'm sorry. I didn't mean to cut you off.</p> <p>20 A. I know that there are people who grind up</p> <p>21 the tissues of the genital tract and find talc. I</p> <p>22 know that there are people who do SDS whatever</p> <p>23 testing on -- on -- on tissue blocks that claim</p> <p>24 that they find -- and they do probably find -- some</p> <p>25 talc. But it wasn't there when the -- when the</p>	<p style="text-align: right;">Page 85</p> <p>1 Q. I'm showing you what's been marked as</p> <p>2 Exhibit 3, which is a study by Dr. Sandra McDonald</p> <p>3 and other folks. And you cite this study in your</p> <p>4 report. And you cite it actually in all of your</p> <p>5 reports, specifically where you make the same</p> <p>6 statement. Let me find it. It's in the paragraph</p> <p>7 above the observational data paragraphs. And you</p> <p>8 state --</p> <p>9 A. Page?</p> <p>10 Q. Well, I'm looking at the Carl report.</p> <p>11 A. Yes. Oh, okay.</p> <p>12 Q. The Carl report. But you say it in all</p> <p>13 of your reports.</p> <p>14 A. Okay.</p> <p>15 Q. So the study we're referring to is called</p> <p>16 Migration of Talc From the Perineum to Multiple</p> <p>17 Pelvic Organ Sites, five case studies with</p> <p>18 correlative light and scanning electron microscopy</p> <p>19 by Dr. McDonald and five other physicians and</p> <p>20 scientists, right? And it was published in the</p> <p>21 American Journal of Clinical Pathology in 2019.</p> <p>22 And you cite to this in every one of your reports;</p> <p>23 right?</p> <p>24 A. Yes.</p> <p>25 Q. And you cite to it behind the sentence</p>

<p style="text-align: right;">Page 86</p> <p>1 that says, "Studies reporting talc particles in 2 gynecologic tissue are also unconvincing as they 3 fail to corroborate their findings with the 4 expected histological response to talc, which is 5 necessary to rule out specimen contamination as a 6 likely alternative explanation to their findings." 7 And then you testified just now that 8 not a single report has demonstrated talc in 9 macrophages in the ovaries or lymph nodes. 10 A. I said ovaries or fallopian tubes. 11 Q. Or fallopian tubes. I'm sorry. So first 12 of all, are you familiar with this study? 13 A. Yes. 14 Q. You've obviously read it because you cite 15 it in every report; right? 16 A. Yes, I'm very familiar with it. 17 Q. Okay. If you would -- well, the 18 objective of this study, as stated in the abstract, 19 says that genital talc use is associated with 20 increased risk of ovarian carcinoma in 21 epidemiologic studies. Finding talc in pelvic 22 tissues in women with ovarian carcinoma who have 23 used talc is important in documenting exposure and 24 assessing talc's biologic potential, but 25 tissue-based morphology studies have been rarely</p>	<p style="text-align: right;">Page 88</p> <p>1 Q. I know SEM is not your expertise, but you 2 agree that SEM with EDX capability can identify 3 particles like talc? 4 MR. HEGARTY: Objection to the form. 5 THE WITNESS: It can identify that 6 they're in the proper ratio, which the person who 7 does this is just Dr. Godleski, gives himself a 8 five percent wiggle room. Remember what I said, 9 biology's not physics. 10 BY MR. DEARING: 11 Q. Right. 12 A. This is physics. If the thing doesn't 13 hit it perfectly, then you're not sure that it's 14 talc. 15 Q. Well, you would agree with me that five 16 percent -- actually ten percent -- is accepted in 17 particle identification, a ten percent variance? 18 A. By whom? Accepted by whom? 19 MR. HEGARTY: Objection. 20 BY MR. DEARING: 21 Q. By experts in the field of particle 22 identification. 23 MR. HEGARTY: Objection to form. 24 THE WITNESS: I -- again, I'm not an 25 expert in the area, so I'm not going to -- I'm not</p>
<p style="text-align: right;">Page 87</p> <p>1 reported. 2 And then the method is important. 3 Because they say we report five patients -- I'm 4 sorry -- five patient cases with documented 5 perineal talc exposure or use, each of whom had 6 talc both by polarized light and scanning electron 7 microscopy in multiple pelvic sites distant from 8 the perineum. 9 And then the results state, "Talc 10 particles were found in exposed patients typically 11 within two or more of the following locations: 12 pelvic region lymph nodes, cervix, uterine corpus, 13 fallopian tubes, and ovaries." 14 And then I want to direct your 15 attention specifically to image 4C, which is on 16 page -- and incidentally, as the authors describe, 17 the talc particles were studied not just by 18 polarized light and microscopy, but by scanning 19 electron microscopy with EDX, energy-dispersive 20 x-ray spectroscopy, I think is how you pronounce 21 that. Anyway, the point is, it's a process by 22 which talc particles can be definitively 23 identified; right? 24 MR. HEGARTY: Object to the form. 25 BY MR. DEARING:</p>	<p style="text-align: right;">Page 89</p> <p>1 going to -- to absolutely say that it's not 2 accurate. But in my opinion, if you are saying 3 that something is a mineral, an exact mineral, that 4 mineral should be spot on in its composition, not a 5 little bit. 6 BY MR. DEARING: 7 Q. Well, let's -- hold that thought. Let's 8 talk about this study. 9 A. Okay. 10 Q. Then I'll come back to that, okay? 11 'Cause that's an important point. But for purposes 12 of these questions, unless you're going to say this 13 is not talc that he's finding, I want to ask you 14 specifically about image 4C. Are you able to find 15 it yet? 16 A. Yeah, I have it. 17 Q. It says, "Scanning electron microscopy, 18 SEM, at 500 times magnification with back-scattered 19 electron imaging from the same general area as in A 20 and B in that same image, but a different 21 histologic section showing numerous back-scattered 22 electron-positive particulates within the cytoplasm 23 of macrophages similar to A, the majority of which 24 has a spectrum characteristic of talc." 25 So would you agree with me that at</p>

<p style="text-align: right;">Page 90</p> <p>1 least in that image, these scientists are saying</p> <p>2 they have identified talc within the cytoplasm of</p> <p>3 macrophages in that tissue?</p> <p>4 MR. HEGARTY: Object to form.</p> <p>5 THE WITNESS: Okay. In the -- in the H</p> <p>6 and E section, which is 4E, I will agree that those</p> <p>7 particles are within macrophages. In the SEM,</p> <p>8 which is F, you can't tell those particles are in</p> <p>9 macrophages.</p> <p>10 BY MR. DEARING:</p> <p>11 Q. Which image are you looking at? I'm</p> <p>12 looking at --</p> <p>13 A. This one.</p> <p>14 Q. -- four --</p> <p>15 A. Four?</p> <p>16 Q. C.</p> <p>17 A. Oh.</p> <p>18 Q. 4C is where I'm starting. We'll get to</p> <p>19 the others. But 4C is where I'm starting. That's</p> <p>20 where I just read from.</p> <p>21 A. Right. So 4C, you can't tell that that's</p> <p>22 a macrophage.</p> <p>23 Q. Well, the scientists thought they could</p> <p>24 tell it was a macrophage. They published in --</p> <p>25 MR. HEGARTY: Objection to form.</p>	<p style="text-align: right;">Page 92</p> <p>1 A. A scanning electron microscopy looks only</p> <p>2 at the surface. It cannot look below the surface</p> <p>3 of the tissue.</p> <p>4 Q. Actually, a variable pressure SEM does</p> <p>5 look below the surface of the tissue.</p> <p>6 MR. HEGARTY: Objection.</p> <p>7 BY MR. DEARING:</p> <p>8 Q. Do you know what a variable pressure SEM</p> <p>9 is?</p> <p>10 MR. HEGARTY: Objection to the form.</p> <p>11 THE WITNESS: I am not.</p> <p>12 BY MR. DEARING:</p> <p>13 Q. Okay. Do you know that Dr. Godleski and</p> <p>14 his team are using variable pressure scanning</p> <p>15 electron microscopy to make these observations?</p> <p>16 MR. HEGARTY: Objection to form.</p> <p>17 THE WITNESS: I am completely unaware of</p> <p>18 that.</p> <p>19 BY MR. DEARING:</p> <p>20 Q. Okay. But it's your opinion that these</p> <p>21 authors got this wrong and that those -- those</p> <p>22 particles that they are saying in image 4C are in</p> <p>23 the cytoplasm of a macrophage are not?</p> <p>24 A. Well, they -- they might be, but they</p> <p>25 can't say that because it's a two-dimensional mode</p>
<p style="text-align: right;">Page 91</p> <p>1 THE WITNESS: Well, they --</p> <p>2 BY MR. DEARING:</p> <p>3 Q. So you disagree with the scientists that</p> <p>4 published this paper? They're saying it's a</p> <p>5 macrophage and they're wrong?</p> <p>6 A. I -- I say that they can't tell that</p> <p>7 those particles are inside a macrophage.</p> <p>8 Q. Well, you would -- would you agree with</p> <p>9 me that you're not an SEM expert?</p> <p>10 A. I am not.</p> <p>11 Q. An expert in scanning electron</p> <p>12 microscopy?</p> <p>13 A. I'm not an expert.</p> <p>14 Q. Would you also agree with me then, or do</p> <p>15 you know, that when you're actually looking through</p> <p>16 the -- when you're actually looking at the SEM</p> <p>17 image on the computer, that it looks different than</p> <p>18 the two-dimensional photograph you're looking at in</p> <p>19 a published paper; right?</p> <p>20 MR. HEGARTY: Objection to form.</p> <p>21 THE WITNESS: It does not, because SEM is</p> <p>22 a two-dimensional mode of viewing tissue. You are</p> <p>23 only looking at the surface.</p> <p>24 BY MR. DEARING:</p> <p>25 Q. So it's your --</p>	<p style="text-align: right;">Page 93</p> <p>1 of evaluating the tissue. And by the way,</p> <p>2 the -- Dr. Godleski finds more non-talc particles</p> <p>3 than talc particles in every single --</p> <p>4 Q. True.</p> <p>5 A. -- study that they make.</p> <p>6 Q. True. He doesn't hide that. In every</p> <p>7 report he issues he identifies everything.</p> <p>8 A. So statistically it's more likely those</p> <p>9 particles that we see in the H&E slides are not</p> <p>10 talc. They're something else.</p> <p>11 Q. I understand. But the particles he's</p> <p>12 identified by scanning electron microscopy, which</p> <p>13 he says is in these macrophages, he is saying is</p> <p>14 talc. Well, not him, the authors, Dr. McDonald and</p> <p>15 Dr. Fan. By the way, do you know Dr. Fan, the</p> <p>16 microscopist from Brown?</p> <p>17 A. I don't.</p> <p>18 MR. HEGARTY: Objection to form.</p> <p>19 BY MR. DEARING:</p> <p>20 Q. Do you know Dr. Welch? He's a gyn -- was</p> <p>21 a gyn pathologist.</p> <p>22 A. I knew him, yes.</p> <p>23 Q. Okay. And you know who Dr. Dave Cramer</p> <p>24 is; right?</p> <p>25 A. Yes.</p>

<p style="text-align: right;">Page 94</p> <p>1 Q. If you would also look at image 4F, which 2 is in the next page, I think. Yep. And the 3 authors there say that SEM from the same general 4 area as D and E, but in a different -- different 5 histologic section, showed numerous back-scattered 6 electron-positive particulates within the cytoplasm 7 of macrophages similar to C, and the majority 8 having a spectrum characteristic of talc. 9 Is it your opinion that those 10 images -- that the image 4F is not showing 11 particles in a mac -- in macrophages? 12 A. I'm saying that the mode of examining it 13 can't definitively say that, no. Yeah, that's what 14 I'm saying. 15 Q. So you think that, although you're not an 16 expert in the field of scanning electron 17 microscopy, that you know more about this or you're 18 able to make more accurate observations than the 19 experts in the field of scanning electron 20 microscopy? 21 MR. HEGARTY: Objection to form. 22 THE WITNESS: I can give you my opinion. 23 BY MR. DEARING: 24 Q. Okay. So as I understand it, you're not 25 saying they're wrong, you're just saying they can't</p>	<p style="text-align: right;">Page 96</p> <p>1 know whether those particles are within a 2 macrophage? 3 A. Correct. 4 Q. But you agree with me that the authors 5 and the experts in the scanning electron microscopy 6 state that they are? 7 MR. HEGARTY: Objection to form. 8 THE WITNESS: They do state that, yes. 9 BY MR. DEARING: 10 Q. And then would you look at image 7D? And 11 again, the authors write that this image shows 12 numerous backscattered electron-positive particles 13 within the cytoplasm of a macrophage. 14 A. Same answer. 15 Q. Okay. Looking at 7D and the way those 16 particles are aligned in sort of a uniformed, 17 encompassed fashion, doesn't it appear to you that 18 those are macrophage because of the way they are 19 and they're not just scattered amongst the tissue? 20 MR. HEGARTY: Objection to form. 21 THE WITNESS: There are many images that 22 have been offered by these authors, both H&E and 23 SEM, that appear aggregated but not within the 24 cytoplasm of the cell in the H&E. And I -- so I 25 can't tell.</p>
<p style="text-align: right;">Page 95</p> <p>1 tell. Is that what you're saying? 2 MR. HEGARTY: Objection to form. 3 THE WITNESS: Correct. 4 BY MR. DEARING: 5 Q. Okay. You think that the American 6 Journal of Clinical Pathology is a reputable 7 journal, don't you? You've published in it, 8 haven't you? 9 A. I'm very close friends with the editor in 10 chief. 11 Q. Right. It's one of the best journals in 12 the field, isn't it? 13 A. It's -- it's highly regarded. 14 Q. And of course this is a peer-reviewed 15 publication; right? 16 A. Yes. 17 Q. Which means other peers in the specialty 18 of the authors have reviewed this paper before it 19 was allowed to be accepted to be published; right? 20 A. Yes. 21 Q. Would you also look at image 5H? There 22 the authors write, again, another example of 23 particulates within the cytoplasm of macrophages. 24 A. Same answer. 25 Q. And is it your opinion that you don't</p>	<p style="text-align: right;">Page 97</p> <p>1 BY MR. DEARING: 2 Q. Well, let me ask you this. Whether you 3 can tell definitively or not, doesn't the image in 4 7D at least look like particles in a macrophage? 5 Isn't that what you would expect it to look like? 6 MR. HEGARTY: Objection to form. 7 THE WITNESS: I -- I -- so if you look at 8 the H&E images -- so if you look at 4B, one of 9 those cells is a macrophage and clearly has 10 particles in its cytoplasm. 11 BY MR. DEARING: 12 Q. Which one? 13 A. Yes, I have it -- I gave you the wrong 14 image. 15 Q. I agree with you on 4B, but -- 16 A. No, it was -- it's -- I mean, it -- the 17 magnification on some of these is just too small 18 for me to see. So there are images in here where 19 you have particles in macrophages, mainly in the 20 lymph node. It's not surprising. The lymph node 21 is where all the small particles are taken. 22 Q. Okay. So back to what started this 23 dialogue was you made the comment that there are no 24 publications that show talc in the macrophages of 25 ovarian and fallopian tube tissue; right?</p>

<p style="text-align: right;">Page 98</p> <p>1 A. I said --</p> <p>2 MR. HEGARTY: Objection to form.</p> <p>3 THE WITNESS: -- no reports of foreign</p> <p>4 body reaction to talc in ovaries or fallopian</p> <p>5 tubes.</p> <p>6 BY MR. DEARING:</p> <p>7 Q. So it's not that that hasn't been</p> <p>8 reported in the literature, it's that you don't</p> <p>9 necessarily agree with what their opinions are in</p> <p>10 the published literature; right?</p> <p>11 MR. HEGARTY: Objection to form.</p> <p>12 THE WITNESS: They don't show the right</p> <p>13 reaction to talc. They're -- they're basically</p> <p>14 taking particles that are likely contaminants, that</p> <p>15 are in the surfaces of the ovary and tube, or</p> <p>16 perineum -- they don't even have it in the ovary</p> <p>17 itself. They say adjacent tissue -- and they're</p> <p>18 saying that -- that is evidence that there</p> <p>19 was -- that there was migration of talc. I</p> <p>20 disagree with this paper, and I disagree with their</p> <p>21 conclusions.</p> <p>22 BY MR. DEARING:</p> <p>23 Q. But the statement that there are no</p> <p>24 publications that demonstrate that --</p> <p>25 A. That demonstrate the foreign body</p>	<p style="text-align: right;">Page 100</p> <p>1 statement that I just read about in your report,</p> <p>2 you say, "Studies reporting talc particles in</p> <p>3 gynecologic tissues are also unconvincing as they</p> <p>4 fail to corroborate their findings with the</p> <p>5 expected histological response to talc, which is</p> <p>6 necessary to rule out specimen contamination as a</p> <p>7 likely alternative explanation for their findings."</p> <p>8 And you cite McDonald 2019 in</p> <p>9 Ultrastructural Pathology. Well, first of all,</p> <p>10 McDonald 2019 in Ultrastructural Pathology isn't</p> <p>11 even about what that sentence, is it? This is a</p> <p>12 copy of that study.</p> <p>13 And if you recall, in that study, the</p> <p>14 scientists looked at Johnson's baby powder under a</p> <p>15 scanning electron microscope to discern what the</p> <p>16 variations were in the magnesium and silicon</p> <p>17 ratios. And they determined that a .05 percent, or</p> <p>18 .05 or a five percent variance, is conservative, to</p> <p>19 say the least, in determining whether the particles</p> <p>20 are talc. Do you remember that from that study?</p> <p>21 MR. HEGARTY: Objection to form.</p> <p>22 THE WITNESS: I'm sorry, I have to read</p> <p>23 it.</p> <p>24 BY MR. DEARING:</p> <p>25 Q. Take your time.</p>
<p style="text-align: right;">Page 99</p> <p>1 reaction. They don't show a foreign body reaction</p> <p>2 here.</p> <p>3 Q. Okay. Well, you just said that there's</p> <p>4 an H&E slide photo micrograph that shows particles</p> <p>5 in a macrophage.</p> <p>6 A. In a lymph node, yes.</p> <p>7 Q. In a lymph node. Okay.</p> <p>8 A. Yeah.</p> <p>9 Q. If those particles were talc, you would</p> <p>10 agree that that is an inflammatory reaction to talc</p> <p>11 in the lymph node; right?</p> <p>12 MR. HEGARTY: Objection to form.</p> <p>13 THE WITNESS: In the hypothetical that</p> <p>14 those were talc, then it would be a foreign body</p> <p>15 reaction to the talc, yes.</p> <p>16 BY MR. DEARING:</p> <p>17 Q. Okay.</p> <p>18 A. An appropriate reaction.</p> <p>19 Q. Okay. And I promised I'd come back to</p> <p>20 this. You were talking about particle</p> <p>21 identification and whether a ten percent variance</p> <p>22 in the anatomic ratio between magnesium and silicon</p> <p>23 is acceptable in the field. And I want to direct</p> <p>24 you to another study that you cited in every one of</p> <p>25 your reports, in the same string cite, to the</p>	<p style="text-align: right;">Page 101</p> <p>1 A. Yes, the authors themselves say is</p> <p>2 reasonably close. So, I mean --</p> <p>3 Q. What is reasonably close?</p> <p>4 A. That's what they state. This standard</p> <p>5 deviation, da, da, da, da, the current use, plus or</p> <p>6 minus five percent diagnostic range, is thus</p> <p>7 reasonably close to this study's whatever range.</p> <p>8 Q. Reasonably close to what they actually</p> <p>9 observed in Johnson's baby powder is what you're</p> <p>10 saying; right?</p> <p>11 MR. HEGARTY: Objection to form.</p> <p>12 BY MR. DEARING:</p> <p>13 Q. So what they did, if you'll recall from</p> <p>14 the study, is they looked at Johnson's baby powder</p> <p>15 under a scanning electron microscope, saw the</p> <p>16 variation in the talc particles of the magnesium</p> <p>17 and silicon ratio, and then compared that to the</p> <p>18 particles they were finding in tissue of women who</p> <p>19 used Johnson's baby powder, and they were comparing</p> <p>20 the two.</p> <p>21 A. I'm going to go on the record as saying I</p> <p>22 accept their plus or minus five percent, okay? So</p> <p>23 we don't have to argue about it.</p> <p>24 Q. I wish you had led with that. We're not</p> <p>25 arguing. I just want to make sure we're being</p>

<p style="text-align: right;">Page 102</p> <p>1 accurate here. But you cite that for this</p> <p>2 proposition in your report about studies reporting</p> <p>3 talc particles in gynecologic tissues are</p> <p>4 unconvincing and fail to corroborate their</p> <p>5 findings. But this study doesn't really address</p> <p>6 that statement, does it?</p> <p>7 MR. HEGARTY: Objection to form.</p> <p>8 BY MR. DEARING:</p> <p>9 Q. I mean, you can disagree with me, but --</p> <p>10 A. I'd rather not.</p> <p>11 Q. You know what, I'll withdraw that</p> <p>12 question. It's not necessary. You don't have to</p> <p>13 spend time on it.</p> <p>14 I will point out one other cite of</p> <p>15 that list of studies. For that same proposition</p> <p>16 you cite Campion 2018, and I don't have that with</p> <p>17 me. But if you'll recall, Campion 2018 was a</p> <p>18 comparison of Raman's spectroscopy identification</p> <p>19 of talc with Dr. Godleski's SEM identification of</p> <p>20 talc, and found that they were identical. Do you</p> <p>21 remember that?</p> <p>22 A. I don't --</p> <p>23 MR. HEGARTY: Objection to form.</p> <p>24 THE WITNESS: -- off the top of my head.</p> <p>25 BY MR. DEARING:</p>	<p style="text-align: right;">Page 104</p> <p>1 it.</p> <p>2 BY MR. DEARING:</p> <p>3 Q. Okay.</p> <p>4 A. Off the top of my head.</p> <p>5 Q. It's a study I'd like to forget.</p> <p>6 A. Yeah.</p> <p>7 Q. Because it blows my mind. In this</p> <p>8 McDonald study and lots of others, one of the</p> <p>9 things they discussed here is the morphology of</p> <p>10 talc. Are you familiar with the different</p> <p>11 morphologies of talc, in other words, that talc is</p> <p>12 found in both a plate form and a fibrous form?</p> <p>13 MR. HEGARTY: Objection, form.</p> <p>14 THE WITNESS: I am familiar with that,</p> <p>15 yes.</p> <p>16 BY MR. DEARING:</p> <p>17 Q. Have you ever looked at Johnson's baby</p> <p>18 powder under a microscope?</p> <p>19 A. I have not looked at Johnson's baby</p> <p>20 powder under a microscope.</p> <p>21 Q. Have you ever seen photomicrographs of</p> <p>22 Johnson's baby powder under a microscope other than</p> <p>23 those that are contained in this McDonald study?</p> <p>24 A. I have seen representations of</p> <p>25 talc -- microscopic representations of talc, yes.</p>
<p style="text-align: right;">Page 103</p> <p>1 Q. Do you know anything about Raman</p> <p>2 spectroscopy?</p> <p>3 A. Very little.</p> <p>4 Q. Do you understand that Raman spectroscopy</p> <p>5 is probably the most precise way to identify a</p> <p>6 particle because it is able to identify the unique</p> <p>7 way that the atoms are reacting to each other in a</p> <p>8 unique signature that each different element has?</p> <p>9 MR. HEGARTY: Objection to form.</p> <p>10 BY MR. DEARING:</p> <p>11 Q. That's all I understand about it, so --</p> <p>12 A. I think your description is about as</p> <p>13 vague as I would be able to --</p> <p>14 Q. Okay.</p> <p>15 A. -- give it.</p> <p>16 Q. The point is, you cite Campion 2018. And</p> <p>17 I'm asking, I guess, if you remember that that was</p> <p>18 a comparison study, sort of a proof of method</p> <p>19 study, that compared SEM identification of talc in</p> <p>20 this .05 variance and Raman spectroscopy</p> <p>21 identification of talc, and they -- and it</p> <p>22 established that the SEM was just as accurate as</p> <p>23 the Raman. Do you remember that about that study?</p> <p>24 MR. HEGARTY: Objection to form.</p> <p>25 THE WITNESS: I actually don't remember</p>	<p style="text-align: right;">Page 105</p> <p>1 And I have seen actual talc in tissues as well.</p> <p>2 Q. I'm referring specifically to Johnson's</p> <p>3 baby powder, though. Have you seen Johnson's baby</p> <p>4 powder, the talc -- have you observed Johnson's</p> <p>5 talc-based baby powder under a microscope?</p> <p>6 A. I have not.</p> <p>7 Q. We were talking about endometriosis, and</p> <p>8 before that we were talking about macrophages. Let</p> <p>9 me ask you this.</p> <p>10 If endometrial cells were to slough</p> <p>11 off from the uterus, they'd be transported and</p> <p>12 implanted on the ovary, or I guess even hung up in</p> <p>13 the epithelial tissue of the fallopian tube,</p> <p>14 wouldn't that attract macrophages because it's a</p> <p>15 cell that shouldn't be there -- or it's a tissue</p> <p>16 that shouldn't be there?</p> <p>17 MR. HEGARTY: Objection to form.</p> <p>18 THE WITNESS: It does not need to attract</p> <p>19 macrophages, no.</p> <p>20 BY MR. DEARING:</p> <p>21 Q. Does it occasionally attract macrophages?</p> <p>22 A. Yes, if the endometriosis bleeds.</p> <p>23 Q. Okay. I should have been more general.</p> <p>24 Does it attract any kind of inflammatory mediators,</p> <p>25 whether lymphocyte, anything?</p>

<p style="text-align: right;">Page 106</p> <p>1 A. Rarely. Most of the time it's just 2 sitting in the tissue. 3 Q. Isn't it true that endometriosis is a 4 condition that occurs when endometrial tissue is 5 sloughed off and then later implanted in parts of 6 the body that it doesn't belong, causing some kind 7 of reaction? 8 A. That is the favored hypothesis. There 9 are other hypotheses, but that is the favored 10 hypothesis and the mechanism that I believe causes 11 endometriosis. 12 Q. And what kind of reaction occurs when 13 those cells are displaced and implant somewhere 14 else? 15 A. The types of reactions are varied. 16 Sometimes you can't see a reaction at all, so you 17 just -- you're looking at the tissue and then you 18 run into an endometrial gland with stroma. The 19 tissue surrounding it maintains its normal 20 appearance, no inflammation, no deviance from its 21 normal appearance. 22 Other times -- and this is 23 frequent -- you will be looking at tissue and find 24 the endometrial gland and endometrial stroma, and 25 there would be a fibrous reaction to it. So let's</p>	<p style="text-align: right;">Page 108</p> <p>1 onto the pelvis acquires these mutations which are 2 not normally seen in parietal endometrium in the 3 uterus. 4 So once you start getting accumulating 5 mutations, it's -- it's very easy to understand 6 that it will progress to carcinoma. Now, what 7 percentage of women with endometriosis develop 8 endometrioma carcinoma? Not close to half of them. 9 But some of them do. 10 Q. You mentioned that surgical glove 11 manufacturers stopped dusting their gloves with 12 talc decades ago because it was leaving talc inside 13 the body and causing inflammatory reactions. Are 14 you aware that the condom industry stopped dusting 15 condoms with talc decades ago as well for much the 16 same reason? 17 MR. HEGARTY: Objection to form. 18 THE WITNESS: Well, they stopped dusting 19 with talc, but not for the same reason. 20 BY MR. DEARING: 21 Q. Why do you think the condom industry 22 stopped dusting their condoms with talc? 23 A. I have no idea. I'm not an expert in 24 condoms. 25 Q. Would you expect condoms to introduce</p>
<p style="text-align: right;">Page 107</p> <p>1 say that you found it in the pelvic adipose tissue, 2 fatty tissue of the pelvis. You will see adipose 3 tissue which is fat. And then you would get to the 4 endometriotic gland and it would be surrounded by 5 fibrous tissue which doesn't belong there. 6 Q. Is it the fibrous tissue that causes the 7 adhesions we were talking about earlier? 8 A. It is the reaction -- the fibrotic 9 reaction to endometriosis that causes adhesions. 10 Q. And does that endometrial tissue response 11 also occur on the ovary? 12 A. It does. 13 Q. You've opined that endometriosis is a 14 risk factor for endometrial carcinoma of the ovary. 15 How does it transition from endometriosis to 16 endometrioid carcinoma? 17 A. So it's a complex series of genetic 18 anomalies. Many, if not most endometriosis have 19 some of the same mutations that are found in 20 endometrial carcinoma. I believe it's ARID1A and 21 PIC3A mutations are frequently found in 22 endometriosis. Those are abnormal mutations that 23 are associated with cancer. 24 So we know that for whatever reason, 25 this endometrium that is retrogradely menstruated</p>	<p style="text-align: right;">Page 109</p> <p>1 talc into the female reproductive tract if they 2 were dusted with talc? 3 A. I would not expect that to happen. 4 Q. That because you think the talc would not 5 escape the mucosa that you described before? 6 A. It would not go into the upper genital 7 tract. 8 Q. If talc could somehow reach the uterus, 9 would you agree that it could be transported the 10 same way endometrial tissue can be transported, and 11 implant on the ovaries -- 12 MR. HEGARTY: Objection to form. 13 BY MR. DEARING: 14 Q. -- to retrograde menstruation? 15 A. No. The ability of the female genital 16 tract to allow things into the -- into the upper 17 genital tract is extremely selective. 18 Q. How so? 19 A. Well, to remain as a viable species, it 20 needs to allow sperm to go up. But -- 21 Q. But if it was extremely selective -- I'm 22 sorry. Go ahead. It shouldn't allow endometrial 23 tissue to go up because it's damaging. 24 A. Well, the endometrial's already up. It's 25 already in the cavity.</p>

<p style="text-align: right;">Page 110</p> <p>1 Q. Okay.</p> <p>2 A. There's no cervical barrier for that to</p> <p>3 retrograde menstruate.</p> <p>4 Q. Okay.</p> <p>5 A. As you might be aware or not, but I'll</p> <p>6 make you aware --</p> <p>7 Q. Presume I'm not.</p> <p>8 A. -- there are ten to the ninth to ten to</p> <p>9 the twelfth bacteria in the vagina. The</p> <p>10 endometrium is sterile. Why don't bacteria go into</p> <p>11 the plump? Well, it's very selective, right? It</p> <p>12 doesn't allow certain things to go up. One of the</p> <p>13 things that it doesn't allow to go up would be</p> <p>14 talc. Because hundreds of thousands of people use</p> <p>15 talc, or used to use talc in their -- in their</p> <p>16 perineal area, and we did not see talc granulomas</p> <p>17 anywhere.</p> <p>18 Q. I think the question is how does it</p> <p>19 prevent the talc from going up, or how does it</p> <p>20 prevent the bacteria from going up?</p> <p>21 A. It is a wonderful biological process that</p> <p>22 we can't explain. But what we do know is it</p> <p>23 doesn't happen. I mean, you can't -- you can't say</p> <p>24 that bacteria go into the endometrial cavity when</p> <p>25 we know that the endometrial cavity is sterile.</p>	<p style="text-align: right;">Page 112</p> <p>1 A. Some --</p> <p>2 MR. HEGARTY: Objection to form.</p> <p>3 THE WITNESS: Some particles have been</p> <p>4 shown to migrate.</p> <p>5 BY MR. DEARING:</p> <p>6 Q. Okay. You state in all these reports</p> <p>7 that the talc found -- well, let me just ask you.</p> <p>8 Isn't it true that if talc is found in a</p> <p>9 macrophage, that cannot be the product of</p> <p>10 contamination?</p> <p>11 A. You are correct.</p> <p>12 MR. HEGARTY: Objection to form.</p> <p>13 BY MR. DEARING:</p> <p>14 Q. I'm sorry about this. I don't remember</p> <p>15 where we landed. Do you believe that environmental</p> <p>16 factors can play a role in the development of</p> <p>17 epithelial cancers?</p> <p>18 MR. HEGARTY: Objection to form.</p> <p>19 BY MR. DEARING:</p> <p>20 Q. We started the conversation. I honestly</p> <p>21 don't remember where we ended up.</p> <p>22 A. Environmental factors. I think if</p> <p>23 a -- the answer is no, I don't -- I don't believe</p> <p>24 environmental factors. One of the things that I</p> <p>25 was going to speculate was maybe ionizing</p>
<p style="text-align: right;">Page 111</p> <p>1 Q. Well, some viruses do, don't they?</p> <p>2 A. And some bacteria occasionally do also.</p> <p>3 Like gonorrhea is very good at that. But it</p> <p>4 probably doesn't go up the cervix. It probably</p> <p>5 goes around into the tissues. So, anyway, needless</p> <p>6 to say, the genital tract wouldn't survive if</p> <p>7 bacteria could go up the cervix.</p> <p>8 Q. Okay. So your opinion is talc cannot</p> <p>9 migrate from the vagina to the reproductive tract,</p> <p>10 but you're not sure why?</p> <p>11 MR. HEGARTY: Objection to form.</p> <p>12 THE WITNESS: Correct. I haven't studied</p> <p>13 it. I know -- I've read many animal studies that</p> <p>14 have tried to -- to get talc to go up the upper</p> <p>15 genital tract, and most of them have failed, even</p> <p>16 though they inject it into the fornix and even into</p> <p>17 the uterus.</p> <p>18 BY MR. DEARING:</p> <p>19 Q. Well, you agree there are some human</p> <p>20 studies that actually show that carbon particles,</p> <p>21 for example, were used that did migrate. You may</p> <p>22 take exception to how they were introduced into the</p> <p>23 body, but you would agree that there are at least</p> <p>24 some studies that purport to show that particles</p> <p>25 can migrate to the ovaries?</p>	<p style="text-align: right;">Page 113</p> <p>1 radiation.</p> <p>2 Q. Right.</p> <p>3 A. But women are treated with radiation for</p> <p>4 cervical cancer and they don't develop ovarian</p> <p>5 cancer. So it's unlikely to happen.</p> <p>6 Q. Do you agree that one of the protective</p> <p>7 factors for ovarian cancer is tubal ligation?</p> <p>8 A. Yes.</p> <p>9 Q. What is your opinion as to how tubal</p> <p>10 ligation is protective? Someone opined it prevents</p> <p>11 environmental exposures from transversing the</p> <p>12 fallopian tubes. But I assume you have a different</p> <p>13 take?</p> <p>14 MR. HEGARTY: Objection to form.</p> <p>15 THE WITNESS: Oh, it could be many</p> <p>16 reasons. It could -- for one thing, tubal ligation</p> <p>17 arrests the motility of the fallopian tube. It</p> <p>18 interferes with the motility of the fallopian tube.</p> <p>19 Therefore it could -- it could possibly prevent</p> <p>20 more tubal cells to enter the ovary. That's a</p> <p>21 possible mechanism. I'm speculating now, because</p> <p>22 I've not studied this. But it doesn't have to be</p> <p>23 prevention of environmental factors from getting</p> <p>24 into the ovary.</p> <p>25 BY MR. DEARING:</p>

<p style="text-align: right;">Page 114</p> <p>1 Q. Well, because of what you said about 2 environmental factors, you don't believe that 3 tubal ligation prevents environmental exposures 4 from -- from transversing the fallopian tubes 5 because they weren't doing that anyway; right? 6 MR. HEGARTY: Objection. 7 THE WITNESS: Correct. 8 BY MR. DEARING: 9 Q. So in your opinion the reason tubal 10 ligations are protective against ovarian cancer is 11 because a tubal ligation will prevent tubal cells 12 from transversing the fallopian tube and implanting 13 on the ovary or thereabout? 14 MR. HEGARTY: Objection to form. 15 THE WITNESS: I speculate -- 16 MR. HEGARTY: Go ahead. 17 THE WITNESS: I speculate that that may 18 be one of the factors, yes. 19 BY MR. DEARING: 20 Q. Can you think of any other reason why 21 that might be protective? 22 A. I -- I cannot. And I have to confess I 23 haven't thought that much about it. 24 Q. Would you agree with me that Blaustein's 25 pathology textbook, the pathology of the female</p>	<p style="text-align: right;">Page 116</p> <p>1 have four or five of them sitting on my shelf. 2 Q. What about other sources besides 3 textbooks? Where would you go to -- to research a 4 particular issue in GYN pathology? 5 A. I use the search engine PubMed on a daily 6 basis. 7 Q. Any other sources specifically that you 8 would consider reliable that you would go to for 9 questions you might have? 10 A. Not that I can think of. I mean, 11 Blaustein's is -- is very comprehensive and -- and 12 well edited throughout the years. So -- so I -- I 13 rely on it for most of the diagnostic issues that 14 come up that I have -- that I'm not completely 15 certain about. 16 MR. DEARING: Okay. It's noon. Do you 17 guys want to keep going or take a short break for 18 lunch? 19 MR. HEGARTY: Probably take a short 20 break. Not for lunch, but it's time to take a 21 short break. 22 MR. DEARING: Okay. 23 (Break taken.) 24 BY MR. DEARING: 25 Q. Doctor, let me switch gears a little bit.</p>
<p style="text-align: right;">Page 115</p> <p>1 genital tract, is an authoritative, reliable source 2 for female pathology issues? 3 MR. HEGARTY: Objection to form. 4 THE WITNESS: That's another term that 5 carries a lot of luggage, authoritative. So I 6 think it is -- I think that it is a respected 7 source of information. It is extremely 8 educational. It is the book -- the textbook that I 9 prefer to use to confirm my opinions on things, 10 yes. 11 BY MR. DEARING: 12 Q. Because there was an objection to that 13 question, let me ask it a different way. 14 What is your opinion -- I'm sorry, you 15 may just repeat yourself, but what is your opinion 16 about Blaustein's Pathology of the Female Genital 17 Tract? 18 A. I think it is a -- an excellent, 19 comprehensive textbook that is highly respected. 20 Q. Are there any other pathology textbooks 21 that you would defer to if you had a question and 22 you feel like you need to do a little research? 23 A. Sure, there's one by Oliva. 24 Q. How do you spell that? 25 A. O-L-I-V-A, that is quite good. Gosh, I</p>	<p style="text-align: right;">Page 117</p> <p>1 Just a few more general topics, and then we'll move 2 on to specific cases. But I want to ask you some 3 questions about asbestos. 4 Do you intend to offer any opinions 5 about asbestos and whether it can contribute to 6 cause ovarian cancer? 7 MR. HEGARTY: Objection to form. 8 THE WITNESS: Yes. I intend to render 9 the opinion that asbestos does not cause epithelium 10 ovarian cancer. 11 BY MR. DEARING: 12 Q. Do you consider yourself an expert in the 13 field of asbestos? 14 A. I do not. I consider myself a 15 pathologist who's experienced in neoplasms caused 16 by asbestos. 17 Q. Have you ever published on any topics 18 associated with asbestos and the types of cancer 19 that it causes? 20 A. I have not. 21 Q. You agree that asbestos is a known human 22 carcinogen? 23 A. I agree. 24 Q. Have you ever lectured on 25 asbestos-related conditions?</p>

<p style="text-align: right;">Page 118</p> <p>1 A. I have not.</p> <p>2 Q. Have you ever diagnosed anyone with an</p> <p>3 asbestos-related condition?</p> <p>4 A. Many times.</p> <p>5 Q. Have you ever diagnosed anyone with</p> <p>6 peritoneal mesothelioma?</p> <p>7 A. Yes.</p> <p>8 Q. And tell me, how do you define a</p> <p>9 ferruginous body?</p> <p>10 A. Ferruginous body is a microscopic</p> <p>11 particle. It is long. When stained with</p> <p>12 hematoxylin and eosin, it stains dark purple-black.</p> <p>13 It has a geography to it, so usually it contains</p> <p>14 wider areas interspersed with narrow areas</p> <p>15 interspersed with wider areas. So it's -- and it's</p> <p>16 a long particle.</p> <p>17 Q. Does the way that a ferruginous body</p> <p>18 forms depend on the morphology of the asbestos</p> <p>19 fiber itself? In other words, ferruginous bodies</p> <p>20 are formed around asbestos fibers; right?</p> <p>21 A. Correct.</p> <p>22 Q. And so the shape of the ferruginous body,</p> <p>23 for example, the morphology, is dependent upon the</p> <p>24 shape of morphology of the asbestos fiber itself;</p> <p>25 right?</p>	<p style="text-align: right;">Page 120</p> <p>1 have been given to me by experts in the field.</p> <p>2 Because of the shape of the asbestos fiber, it is</p> <p>3 thought to be able to traverse the diaphragm and</p> <p>4 reach the peritoneum.</p> <p>5 Q. What would be the source of exposure?</p> <p>6 A. Inhalation.</p> <p>7 Q. So you say someone else essentially told</p> <p>8 you that. Do you have any opinions yourself, or</p> <p>9 are you just relying on what those experts told you</p> <p>10 as to how it got there?</p> <p>11 A. I don't have any personal experience</p> <p>12 doing research in the matter.</p> <p>13 Q. Would you expect asbestos and ovarian</p> <p>14 tissue to form ferruginous bodies as well?</p> <p>15 A. Yes.</p> <p>16 Q. You said that talc found in these</p> <p>17 plaintiffs' tissues must be contamination. Is that</p> <p>18 also your opinion about asbestos? If asbestos was</p> <p>19 found in the gynecologic tissue of these</p> <p>20 plaintiffs, is it your opinion that that's also</p> <p>21 contamination?</p> <p>22 MR. HEGARTY: Objection to form.</p> <p>23 THE WITNESS: I haven't heard of asbestos</p> <p>24 being found in these tissues, so I -- I don't know</p> <p>25 what I would think.</p>
<p style="text-align: right;">Page 119</p> <p>1 A. Yes.</p> <p>2 Q. Do ferruginous bodies form wherever</p> <p>3 asbestos is found in the body?</p> <p>4 A. Yes.</p> <p>5 Q. And they're called ferruginous bodies</p> <p>6 because it's iron that actually forms around the</p> <p>7 asbestos fiber; right?</p> <p>8 A. Correct.</p> <p>9 Q. Are ferruginous bodies birefringent?</p> <p>10 A. No.</p> <p>11 Q. Where all have you observed ferruginous</p> <p>12 bodies in your career?</p> <p>13 A. Where?</p> <p>14 Q. Where, like what -- in what organs? I</p> <p>15 know the lung, obviously.</p> <p>16 A. The pleura.</p> <p>17 Q. The pleura.</p> <p>18 A. Have I seen it in lung? I don't remember</p> <p>19 if I've seen it in lung, but the pleura for sure,</p> <p>20 and peritoneum.</p> <p>21 Q. So if a ferruginous body is forming in</p> <p>22 the peritoneum, presumably the peritoneum had</p> <p>23 asbestos exposure. How did asbestos get into the</p> <p>24 peritoneum, in your opinion?</p> <p>25 A. So -- and these are explanations that</p>	<p style="text-align: right;">Page 121</p> <p>1 BY MR. DEARING:</p> <p>2 Q. If inhaled asbestos can reach the</p> <p>3 peritoneum, can it also reach the ovaries?</p> <p>4 MR. HEGARTY: Objection to form.</p> <p>5 THE WITNESS: Theoretically, yes.</p> <p>6 BY MR. DEARING:</p> <p>7 Q. Hospital labs like yours are not</p> <p>8 contaminated with asbestos, are they, as a general</p> <p>9 rule?</p> <p>10 A. There's probably a level of environmental</p> <p>11 asbestos that would be impossible to reduce to</p> <p>12 zero. That being said, it is a very, very, very</p> <p>13 tiny amount.</p> <p>14 Q. Is the amount so small that it's not</p> <p>15 likely to end up on a tissue block?</p> <p>16 MR. HEGARTY: Objection to form.</p> <p>17 BY MR. DEARING:</p> <p>18 Q. Or in a tissue block, I should say.</p> <p>19 A. Unlikely to end up in a tissue block from</p> <p>20 environmental exposure.</p> <p>21 Q. What is your opinion as to what types of</p> <p>22 cancer is caused by asbestos?</p> <p>23 A. There's an increase -- obviously, the</p> <p>24 number one type is mesothelioma, but there is an</p> <p>25 increase in epithelial lung cancer when exposed to</p>

<p style="text-align: right;">Page 122</p> <p>1 asbestos.</p> <p>2 Q. Are epithelial cells in the lung similar</p> <p>3 morphologically and organically to epithelial cells</p> <p>4 of the ovary?</p> <p>5 A. No, they're extremely different.</p> <p>6 Q. Okay. You've testified that asbestos can</p> <p>7 cause peritoneal carcinomas; right?</p> <p>8 A. Mesothelioma.</p> <p>9 Q. Mesothelioma. And lung mesothelioma.</p> <p>10 Can asbestos cause cancer anywhere else in the</p> <p>11 body, in your opinion?</p> <p>12 A. Not that I've heard of.</p> <p>13 Q. Well, are you aware that IARC has stated</p> <p>14 that asbestos can cause ovarian cancer?</p> <p>15 MR. HEGARTY: Objection to form.</p> <p>16 BY MR. DEARING:</p> <p>17 Q. You know who IARC is?</p> <p>18 A. Yeah, yeah. They are basing that on an</p> <p>19 article that misclassifies ovarian tumors.</p> <p>20 Q. So you're aware they made the statement?</p> <p>21 A. Yeah.</p> <p>22 Q. You just disagree?</p> <p>23 A. I disagree with a lot of things that IARC</p> <p>24 says. I wouldn't be drinking coffee if I believed</p> <p>25 IARC.</p>	<p style="text-align: right;">Page 124</p> <p>1 reaction?</p> <p>2 A. Yes.</p> <p>3 Q. Okay. Is that also part of the</p> <p>4 carcinogenesis?</p> <p>5 MR. HEGARTY: Objection to form.</p> <p>6 BY MR. DEARING:</p> <p>7 Q. For example, I imagine one of the cells</p> <p>8 it kills is a macrophage; right?</p> <p>9 A. Yes, it kills many macrophages. But</p> <p>10 the -- but the tissues through which it traverse</p> <p>11 are mainly mesothelial lined, and that's where the</p> <p>12 neoplasia really occurs.</p> <p>13 Q. So are you saying the asbestos fiber is</p> <p>14 mobile, it is moving and killing cells, or that</p> <p>15 cells are attracted to it and --</p> <p>16 A. No, the -- the asbestos fibers are not</p> <p>17 motile, but they move due to their shape.</p> <p>18 Q. And they're just killing cells as they</p> <p>19 go?</p> <p>20 A. I -- that is the accepted theory.</p> <p>21 Q. And is that true of a single asbestos</p> <p>22 fiber?</p> <p>23 MR. HEGARTY: Objection to form.</p> <p>24 BY MR. DEARING:</p> <p>25 Q. In other words, sometimes asbestos fibers</p>
<p style="text-align: right;">Page 123</p> <p>1 Q. We all take calculated risks.</p> <p>2 Do you know why asbestos is carcinogenic,</p> <p>3 in other words, how it causes cancer?</p> <p>4 A. Yes.</p> <p>5 Q. Can you enlighten me?</p> <p>6 A. Sure. The -- it causes persistent cell</p> <p>7 destruction.</p> <p>8 Q. Okay.</p> <p>9 A. Persistent cell destruction means</p> <p>10 persistent increased cellular reproductive tract,</p> <p>11 which means increase in mutations.</p> <p>12 Q. How does it do that?</p> <p>13 A. Physically.</p> <p>14 Q. So the morphology physically damages or</p> <p>15 kills cells?</p> <p>16 A. Correct. It punctures cells.</p> <p>17 Q. Would it have to actually damage the DNA</p> <p>18 of the cell in order to cause the reproductive</p> <p>19 tract problem, or just killing the cell itself is</p> <p>20 encouraging more cells to be created?</p> <p>21 A. Correct, it's killing the cell, causing</p> <p>22 the cells around it to replicate to cover that</p> <p>23 defect. That's what causes it. The asbestos</p> <p>24 itself does not alter DNA.</p> <p>25 Q. Does the asbestos invoke an inflammatory</p>	<p style="text-align: right;">Page 125</p> <p>1 are found in bundles. Sometimes they're found</p> <p>2 individually. Can you differentiate whether a</p> <p>3 single asbestos fiber can cause the kind of cell</p> <p>4 damage you're talking about?</p> <p>5 A. It can. But again, you're dealing with</p> <p>6 statistics and probabilities, right? So if you</p> <p>7 have one fiber killing X number of cells, what are</p> <p>8 the odds that a mutation will take place versus if</p> <p>9 you have 10,000 asbestos fibers killing cells. And</p> <p>10 I think that's why people who have environmental</p> <p>11 exposure are the ones who are at risk for these</p> <p>12 tumors, whereas people like you and me who</p> <p>13 undoubtedly have asbestos in our bodies, don't.</p> <p>14 Because one -- one fiber just -- the probabilities</p> <p>15 are stacked against it.</p> <p>16 Q. And I'm not suggesting just one fiber in</p> <p>17 the body is all there was. I'm just saying an</p> <p>18 individual fiber. There may be millions of them.</p> <p>19 But an individual fiber as it travels is doing this</p> <p>20 kind of cell damage that you're describing?</p> <p>21 A. Yes.</p> <p>22 Q. Okay. Is there anything about the</p> <p>23 chemical composition of asbestos that's</p> <p>24 carcinogenic, or is it just morphology, or do we</p> <p>25 know?</p>

<p style="text-align: right;">Page 126</p> <p>1 A. As far as I know, it's only the</p> <p>2 morphology.</p> <p>3 Q. So you mentioned that IARC got it wrong</p> <p>4 because of a misclassification. Can you explain</p> <p>5 what you mean by that?</p> <p>6 A. Yeah. The study that found that asbestos</p> <p>7 caused epithelial ovarian cancer did not -- did</p> <p>8 not -- they got their information mainly from</p> <p>9 cancer registry. So they didn't review those</p> <p>10 tumors. I believe years later they did a</p> <p>11 retrospective analysis of those tumors with</p> <p>12 immunochemistry and found that most of them were</p> <p>13 mesotheliomas.</p> <p>14 Q. Of the ovary?</p> <p>15 A. Yes.</p> <p>16 Q. Okay. How do you distinguish a</p> <p>17 mesothelioma of the ovary as opposed to an</p> <p>18 epithelial ovarian cancer?</p> <p>19 A. So in some instances you can do it with</p> <p>20 morphology alone, but in some instances you</p> <p>21 actually have to use immunohistochemistry which was</p> <p>22 not available when they published that article.</p> <p>23 Q. Would your typical hospital pathologist</p> <p>24 or community pathologist looking at surgical slides</p> <p>25 immediately be able to differentiate between an</p>	<p style="text-align: right;">Page 128</p> <p>1 ovary?</p> <p>2 MR. HEGARTY: Object to the form.</p> <p>3 THE WITNESS: It's very possible, yes.</p> <p>4 BY MR. DEARING:</p> <p>5 Q. Since you're an anatomic pathologist, can</p> <p>6 you walk me through anatomically how inhaled</p> <p>7 asbestos fibers could reach the peritoneum and</p> <p>8 potentially the ovary?</p> <p>9 A. So we know that it reaches -- it</p> <p>10 penetrates and passes through the tissue because it</p> <p>11 has to for inhaled asbestos to reach the pleura.</p> <p>12 Q. Okay.</p> <p>13 A. Most mesotheliomas of the chest occur in</p> <p>14 the parietal pleura, which is the chest wall side</p> <p>15 rather than the lung side. You can get</p> <p>16 mesothelioma starting on the lung side, but most</p> <p>17 are actually parietal pleura. So it has to go into</p> <p>18 the bronchus, to the air sacs of the lung. Once</p> <p>19 it's in the air sacs of the lung, it has to move</p> <p>20 out of the lung through the visceral pleura, which</p> <p>21 is the lining that covers the lung, and go to the</p> <p>22 parietal pleura, which covers the chest wall. So</p> <p>23 we know it can do that.</p> <p>24 And in industrial exposures sometimes</p> <p>25 very easy to find ferruginous bodies in the</p>
<p style="text-align: right;">Page 127</p> <p>1 ovarian mesothelioma and ovarian carcinoma?</p> <p>2 A. Like I said, in some instances it's quite</p> <p>3 easy. So in the -- in the spindle mesotheliomas,</p> <p>4 you don't see that kind of morphology in ovarian</p> <p>5 cancer, but in the papillary mesotheliomas they can</p> <p>6 look very similar to serous carcinomas, in which</p> <p>7 case you would do immunohistochemistry.</p> <p>8 Immunohistochemistry today is</p> <p>9 available to pathologists in all hospitals and</p> <p>10 labs. And, gosh, I don't -- I would say probably</p> <p>11 99 percent of ovarian carcinomas have a -- undergo</p> <p>12 an extensive panel of immunohistochemistry.</p> <p>13 Q. So serous carcinoma makes up what,</p> <p>14 probably 80 percent of ovarian cancers that are</p> <p>15 diagnosed?</p> <p>16 A. 70 is the number that I rely on.</p> <p>17 Q. And then a high percentage of that</p> <p>18 70 percent are papillary serous carcinomas; right?</p> <p>19 A. You know, they've stopped classifying</p> <p>20 them as papillary versus nonpapillary.</p> <p>21 Q. Okay. Well, I was just asking because if</p> <p>22 a pathologist -- a surgical pathologist is looking</p> <p>23 at papillary series -- papillary serous carcinoma,</p> <p>24 is it possible that they will misdiagnose that when</p> <p>25 it might really be a papillary mesothelioma in the</p>	<p style="text-align: right;">Page 129</p> <p>1 parietal pleura. Similarly, it can leave the lung,</p> <p>2 traverse the diaphragm, and enter the peritoneal</p> <p>3 cavity.</p> <p>4 Q. So it's not traveling through lymphatic</p> <p>5 space, it's piercing tissue and going through</p> <p>6 tissue itself?</p> <p>7 A. That is the theory, yes.</p> <p>8 Q. Well, could it also travel through</p> <p>9 lymphatic channels?</p> <p>10 MR. HEGARTY: Objection to form.</p> <p>11 THE WITNESS: Yeah, I -- I don't think it</p> <p>12 could because of its shape. It would get stuck a</p> <p>13 lot.</p> <p>14 BY MR. DEARING:</p> <p>15 Q. I know I've bounced around this next</p> <p>16 topic a little bit. I'm sorry, I need to put it in</p> <p>17 a more organized way, so I'm just going to ask you</p> <p>18 some questions.</p> <p>19 It's true that you don't consider</p> <p>20 yourself an expert in the field of SEM EDX; right?</p> <p>21 A. Right.</p> <p>22 Q. And you also don't consider yourself an</p> <p>23 expert in the field of transmission of electron</p> <p>24 microscopy and EDX; correct?</p> <p>25 A. Correct.</p>

<p style="text-align: right;">Page 130</p> <p>1 Q. And I think you said also you don't</p> <p>2 consider yourself an expert in Raman spectroscopy?</p> <p>3 A. Correct again.</p> <p>4 Q. And you have no training in any of those</p> <p>5 three microscopy techniques?</p> <p>6 A. I have training in transmission</p> <p>7 electromicroscopy as part of diagnosing tumors.</p> <p>8 Haven't used it in decades.</p> <p>9 Q. I've been told it's changed some over the</p> <p>10 decades. It's improved.</p> <p>11 MR. HEGARTY: Objection to form.</p> <p>12 THE WITNESS: TEM -- TEM hasn't changed</p> <p>13 that much. My renal pathologist uses it every day.</p> <p>14 BY MR. DEARING:</p> <p>15 Q. In every report you address</p> <p>16 Dr. Godleski's findings. And to be clear, it's not</p> <p>17 your testimony that he did not identify talc</p> <p>18 properly; right?</p> <p>19 A. Correct.</p> <p>20 MR. HEGARTY: Objection to form.</p> <p>21 BY MR. DEARING:</p> <p>22 Q. That was a double negative. You're not</p> <p>23 testifying or opining that he misidentified</p> <p>24 particles as talc; correct?</p> <p>25 MR. HEGARTY: Objection, form.</p>	<p style="text-align: right;">Page 132</p> <p>1 MR. DEARING: And I e-mailed Susan the</p> <p>2 list, the order.</p> <p>3 MR. HEGARTY: Yeah.</p> <p>4 MR. DEARING: I'm not married --</p> <p>5 MR. HEGARTY: We have it. Yeah, you</p> <p>6 don't have to be married to that order. You can go</p> <p>7 in whatever order you want.</p> <p>8 MR. DEARING: I was going to say, if you</p> <p>9 wanted a specific order --</p> <p>10 MR. HEGARTY: No, that's fine.</p> <p>11 MR. DEARING: All right. Let's start</p> <p>12 with Brandi Carl then.</p> <p>13 BY MR. DEARING:</p> <p>14 Q. First of all, does your report contain</p> <p>15 all of your opinions that you intend to offer in</p> <p>16 this case?</p> <p>17 A. Unless asked something that would -- that</p> <p>18 would prompt my -- an opinion that is -- that I</p> <p>19 haven't thought of, yes, it contains my opinions.</p> <p>20 Q. Are there any other materials that are</p> <p>21 not listed on your reference list that you're</p> <p>22 relying on for your opinions in this matter?</p> <p>23 A. No.</p> <p>24 Q. What did Johnson & Johnson lawyers ask</p> <p>25 you to do in this case?</p>
<p style="text-align: right;">Page 131</p> <p>1 THE WITNESS: I am not.</p> <p>2 BY MR. DEARING:</p> <p>3 Q. The same would apply to asbestos. If he</p> <p>4 identified asbestos, you're not challenging that</p> <p>5 identification, are you?</p> <p>6 MR. HEGARTY: Objection, form.</p> <p>7 THE WITNESS: I would not challenge it.</p> <p>8 BY MR. DEARING:</p> <p>9 Q. The Medical College of Wisconsin and its</p> <p>10 affiliated hospitals and labs, they have scanning</p> <p>11 electron microscopy capability; right?</p> <p>12 A. Yes.</p> <p>13 Q. And I think you just said you also use</p> <p>14 TEM in these facilities; right?</p> <p>15 A. Yes.</p> <p>16 Q. And they have highly skilled, qualified</p> <p>17 microscopists to operate them?</p> <p>18 A. Yes.</p> <p>19 Q. And you didn't consult with any other</p> <p>20 microscopists or pathologists about any of the</p> <p>21 tissue that you reviewed in these cases; right?</p> <p>22 A. I have not.</p> <p>23 Q. Okay. Let's start looking at some</p> <p>24 specific reports. If we can, let's start with</p> <p>25 Brandi Carl.</p>	<p style="text-align: right;">Page 133</p> <p>1 A. They asked me to look at the pathology of</p> <p>2 Ms. Carl's tumor and see if there was any evidence</p> <p>3 that there was talc present in her tissues that</p> <p>4 could have influenced the genesis of this tumor.</p> <p>5 Q. In your opinion, did Ms. Carl's</p> <p>6 cancer -- strike that.</p> <p>7 In your opinion, was Mrs. Carl's</p> <p>8 cancer properly diagnosed by her treating</p> <p>9 pathologist?</p> <p>10 A. Yes.</p> <p>11 Q. Do you disagree with any of the</p> <p>12 statements or opinions of Ms. Carl's treating</p> <p>13 pathologist?</p> <p>14 MR. HEGARTY: Objection.</p> <p>15 BY MR. DEARING:</p> <p>16 Q. Incidentally, I have all the pathology</p> <p>17 reports with me if you need to look at any of them.</p> <p>18 A. Yes, I did not believe that</p> <p>19 Ms. Carl's -- Ms. Carl had invasive implants. I</p> <p>20 thought her implants were noninvasive.</p> <p>21 Q. What's the basis of your opinion?</p> <p>22 A. The morphology of the implants.</p> <p>23 Q. That's something you actually observed on</p> <p>24 the slides?</p> <p>25 A. Yes.</p>

<p style="text-align: right;">Page 134</p> <p>1 Q. Is there anything else -- any other 2 pathology opinions that you disagree with? 3 A. Yes. I disagreed with microinvasion. I 4 thought it was just a serous borderline. 5 Q. Okay. Incidentally, what's the 6 difference between micropapillary serous borderline 7 and papillary serous? 8 A. There's an important distinction. 9 Micropapillary refers to a very specific 10 morphologic trait where instead of the tumor having 11 hierarchal branching, meaning thicker papillae 12 leading to thinner papillae, the micropapillary 13 borderlines contain mainly the same size papillae. 14 And these papillae, instead of having just a single 15 or a few layers of cells, contain very, very tall 16 accumulations of epithelium. 17 This morphologic appearance correlates 18 with invasive implants in the peritoneum. It's not 19 necessary sequela of the micropapillary, but more 20 the percentage of micropapillary tumors with 21 invasive implants is much, much higher than that of 22 a serous borderline papillary tumor. 23 Q. It's your opinion that she had a serous 24 borderline tumor that was not invasive; is that 25 right?</p>	<p style="text-align: right;">Page 136</p> <p>1 Q. Okay. So the purpose of you making that 2 distinction is just you observed it differently, is 3 that all? 4 A. Correct. 5 Q. Okay. Are you saying that it -- well, 6 let me just ask you. Do you think that she 7 received proper care and treatment? 8 A. So she received Taxol copper 9 platinum, likely because of the invasive implants. 10 She -- you can offer an advanced stage serous 11 borderline tumor without invasive implants 12 chemotherapy, but some people would actually 13 observe instead of treat. But she received 14 accepted treatment for her tumor. 15 Q. Very delicately stated. 16 A. I would not be able to say that was 17 wrong. 18 Q. I understand. 19 A. It's not. Because some oncologists will 20 treat. Some oncologists will observe. 21 Q. So the only practical distinction between 22 your diagnosis and the treating pathologist's is if 23 it is invasive, then Taxol copper platinum may be 24 the proper course. If it's not invasive, then it 25 may be something you just remove and observe?</p>
<p style="text-align: right;">Page 135</p> <p>1 A. Correct. 2 Q. Is there any clinical significance to 3 that distinction with regard to treatment or 4 outcomes? 5 A. Yes. Microinvasive borderlines have the 6 same prognosis as borderline tumors. They would 7 not be -- should not be treated differently. 8 Invasive implants, on the other hand, change the 9 therapy for the patient. 10 Q. So invasive borderline tumors, do they 11 require more aggressive treatment? 12 A. So you -- you said invasive. I used the 13 term microinvasive, which is what the pathologist 14 called it. 15 Q. Okay. 16 A. Microinvasive borderlines do not require 17 additional therapy. 18 Q. Okay. So is there any clinical 19 distinction between serous borderline and 20 microinvasive serous borderline? 21 A. There is a distinction in that the 22 microinvasive is actually invading. But that 23 invasion, if it's smaller than, I think it's two 24 millimeters, does not alter the prognosis of the 25 patient, therefore does not require therapy.</p>	<p style="text-align: right;">Page 137</p> <p>1 A. Or give chemo to. So we're talking about 2 not the tumor itself, but the implants. 3 Q. Okay. 4 A. Okay. If a pathologist -- if I diagnose 5 somebody with invasive implants, I would say that 6 95 to 99 percent of oncologists would give 7 chemotherapy. If I diagnose somebody with 8 noninvasive implants, I would say maybe half of the 9 oncologists would watch. 10 Q. Okay. 11 A. So -- but again, both are accepted ways 12 of managing your patient. 13 Q. Is there anything else -- any other 14 pathological opinions that you disagree with? 15 A. No. 16 Q. What is your understanding of Ms. Carl's 17 usage of Johnson's baby powder or talcum powder 18 products, or do you know? 19 A. I don't remember. 20 Q. Do you think that's information you had 21 at one time, or is that not relevant to your 22 opinions? 23 A. It's not relevant to my opinion. 24 Q. Did you make any new slides from 25 Ms. Carl's tissue, or did you review surgical</p>

<p style="text-align: right;">Page 138</p> <p>1 slides that already existed?</p> <p>2 A. I reviewed surgical slides that already</p> <p>3 existed.</p> <p>4 Q. And did you study the tissue blocks that</p> <p>5 were made in her case?</p> <p>6 A. I did not.</p> <p>7 Q. Did the lawyers even send you the tissue</p> <p>8 blocks in this case?</p> <p>9 A. No.</p> <p>10 Q. Did you request to see them?</p> <p>11 A. No.</p> <p>12 Q. I guess, let me just ask you across the</p> <p>13 board. Did they send you tissue blocks in any of</p> <p>14 these cases, any of these seven? And if you</p> <p>15 prefer, I'll ask you for each one, but --</p> <p>16 A. No, no, no. I'm just trying to think. I</p> <p>17 did not receive tissue blocks on any of these</p> <p>18 cases.</p> <p>19 Q. Okay. Did you request tissue blocks?</p> <p>20 A. I did not.</p> <p>21 Q. Is that because you didn't think you</p> <p>22 would find anything useful in the tissue blocks?</p> <p>23 A. Correct. I'm a firm believer that the</p> <p>24 representative section adequately allows me to</p> <p>25 diagnose the conditions that the patient has.</p>	<p style="text-align: right;">Page 140</p> <p>1 A. For what purpose?</p> <p>2 Q. Whatever purpose you wanted. I'm just</p> <p>3 asking if it could be done.</p> <p>4 A. It could be done, yeah, sure.</p> <p>5 Q. Okay. Looking specifically at your</p> <p>6 report -- let me just ask you. Can you estimate</p> <p>7 about how many different cases you've reviewed for</p> <p>8 Johnson & Johnson -- or for the lawyers for Johnson</p> <p>9 & Johnson over the past --</p> <p>10 A. Twelve years.</p> <p>11 Q. -- twelve years since you got involved in</p> <p>12 this litigation?</p> <p>13 A. I would say in the neighborhood of 30.</p> <p>14 Q. I can identify probably 15 off the top of</p> <p>15 my head that actually went to trial or -- actually,</p> <p>16 more than that. Well, 30 is your number, you</p> <p>17 think?</p> <p>18 A. About, yeah. I mean, it's an estimate.</p> <p>19 Q. You state in here in the first paragraph</p> <p>20 of your report, and first paragraph of every</p> <p>21 report, one of the things that you looked at is</p> <p>22 whether there's histologic evidence supporting</p> <p>23 internal exposure to talc-based body powder. And</p> <p>24 then later on you say there is not.</p> <p>25 Isn't it true that you have never once</p>
<p style="text-align: right;">Page 139</p> <p>1 Q. You would agree with me, wouldn't you,</p> <p>2 that Dr. Godleski provided to the Johnson & Johnson</p> <p>3 lawyers, and presumably to you, the precise</p> <p>4 locations of particles that he identified in tissue</p> <p>5 blocks; right?</p> <p>6 MR. HEGARTY: Objection to form.</p> <p>7 BY MR. DEARING:</p> <p>8 Q. And told you what blocks they came from,</p> <p>9 obviously?</p> <p>10 A. Yes, he provided the blocks where it came</p> <p>11 from.</p> <p>12 Q. And also in the data that he provided</p> <p>13 showed the exact coordinates of where those</p> <p>14 particles were located, right, by SEM?</p> <p>15 A. I was actually unaware of that.</p> <p>16 Q. Okay. Well, assuming that he provided</p> <p>17 the coordinates and the blocks, isn't it true that</p> <p>18 you could have asked colleagues in the SEM</p> <p>19 department here to look at the same blocks and look</p> <p>20 at the exact same particles that Dr. Godleski</p> <p>21 looked at?</p> <p>22 A. But I wouldn't need to do that.</p> <p>23 Q. Right. I know you felt like you didn't</p> <p>24 need to, but you could have done that, couldn't</p> <p>25 you, if you wanted to?</p>	<p style="text-align: right;">Page 141</p> <p>1 said that there is histologic evidence supporting</p> <p>2 internal exposure to talcum-based baby powder in</p> <p>3 any of the cases that you've looked at for the</p> <p>4 lawyers for Johnson & Johnson?</p> <p>5 A. There's no evidence for it being talc;</p> <p>6 correct. There are, I believe, two cases in this</p> <p>7 group where I see particles and macrophages in</p> <p>8 lymph nodes.</p> <p>9 Q. What is the mean age of women with serous</p> <p>10 borderline tumors? I know the mean age for serous</p> <p>11 carcinomas, for high-grade serous, is 65 or so, but</p> <p>12 I didn't see -- and maybe there isn't one.</p> <p>13 A. It's two decades earlier in life. So</p> <p>14 it's in the fifth decade of life.</p> <p>15 Q. So women in their 50s typically?</p> <p>16 A. Women in their 40s.</p> <p>17 Q. In their 40s.</p> <p>18 A. Yeah.</p> <p>19 Q. There seems to be about a 20-year</p> <p>20 disparity between high-grade serous carcinoma, the</p> <p>21 mean age of women at 65, and low-grade serous</p> <p>22 carcinoma, age 43. What's the explanation for the</p> <p>23 disparity?</p> <p>24 A. They're two different, entirely</p> <p>25 different, tumor processes. And I don't know -- I</p>

<p style="text-align: right;">Page 142</p> <p>1 don't think anybody knows why the high-grade serous</p> <p>2 carcinoma doesn't happen earlier. But certainly</p> <p>3 neoplasms are different enough to not be</p> <p>4 surprising -- for it not to be surprising that they</p> <p>5 differ in many aspects.</p> <p>6 Q. What is it about low-grade serous</p> <p>7 carcinomas that cause them to be found in much</p> <p>8 younger women.</p> <p>9 A. That they occur sooner.</p> <p>10 Q. Well, I know. But why are they occurring</p> <p>11 sooner than high-grade serous?</p> <p>12 A. It likely has to do with the mutations</p> <p>13 that they develop that -- that manifest themselves</p> <p>14 earlier in life.</p> <p>15 Q. In your high-grade serous carcinoma</p> <p>16 paragraph, you don't mention STIC lesions. Is it</p> <p>17 your opinion that most serous carcinomas began in</p> <p>18 the fallopian tube, or is that an outdated theory?</p> <p>19 MR. HEGARTY: Objection to form.</p> <p>20 BY MR. DEARING:</p> <p>21 Q. Or you just disagree with it?</p> <p>22 A. I am in the camp that believes that most</p> <p>23 ovarian carcinomas occur -- start in the ovary from</p> <p>24 fallopian tube epithelium.</p> <p>25 Q. Okay. That's different than a STIC</p>	<p style="text-align: right;">Page 144</p> <p>1 A. Yeah.</p> <p>2 Q. Then you say -- well, in that first</p> <p>3 sentence you said, "Like most cancers, ovarian</p> <p>4 cancers develop as a result of genetic mutations</p> <p>5 whether inherited or acquired." By acquired, are</p> <p>6 you referring to sporadic mutations?</p> <p>7 A. Yes.</p> <p>8 Q. You're not including environmental</p> <p>9 exposure in acquired mutations; is that right?</p> <p>10 A. I am not.</p> <p>11 Q. You discuss later on on that page</p> <p>12 Ms. Carl's family history. And you state that</p> <p>13 Ms. Carl's family history includes a maternal</p> <p>14 grandmother with lung and/or pancreatic cancer, and</p> <p>15 a maternal grandfather with stomach or esophageal</p> <p>16 cancer. You would agree with me that neither of</p> <p>17 those cancers likely contributed to Ms. Carl's</p> <p>18 ovarian cancer; correct?</p> <p>19 A. I do agree with you.</p> <p>20 Q. To state it another way, neither of those</p> <p>21 cancers of her relatives increase her risk of</p> <p>22 getting ovarian cancer; correct?</p> <p>23 A. Correct.</p> <p>24 Q. You state her medical history is</p> <p>25 significant for nulliparity, infertility, pelvic</p>
<p style="text-align: right;">Page 143</p> <p>1 lesion; right?</p> <p>2 A. It is different than a STIC lesion.</p> <p>3 Q. It's S-T-I-C.</p> <p>4 In your opinion, what is the</p> <p>5 carcinogenesis of serous borderline tumors? In</p> <p>6 other words, how are they formed?</p> <p>7 A. They form after serous cells within the</p> <p>8 ovary undergo several types of mutations, and those</p> <p>9 would be BRAF and KRAS mutations.</p> <p>10 Q. Any idea what causes those mutations?</p> <p>11 A. Likely just mismatch repair gene</p> <p>12 deficiencies.</p> <p>13 Q. You say in the second paragraph on</p> <p>14 page 4, "Like most cancers, ovarian cancers develop</p> <p>15 as a result of genetic mutations, whether inherited</p> <p>16 or acquired. To date, old age, family history of</p> <p>17 ovarian or breast cancer, and inherited mutations</p> <p>18 in known cancer susceptibility genes, are the</p> <p>19 strongest risk factors associated with the</p> <p>20 development of ovarian cancer."</p> <p>21 When you say family history of ovarian</p> <p>22 and breast cancer, you're referring to first-degree</p> <p>23 relatives; correct?</p> <p>24 A. First and second.</p> <p>25 Q. Oh, you're including second-degree?</p>	<p style="text-align: right;">Page 145</p> <p>1 endometriosis and obesity. Would you agree with me</p> <p>2 that none of those medical findings likely</p> <p>3 contributed to her serous borderline tumor?</p> <p>4 A. I don't agree with you. So parity</p> <p>5 influences ovarian cancer.</p> <p>6 Q. Okay. So the fact that she had no</p> <p>7 children put her at a higher risk of this</p> <p>8 borderline tumor.</p> <p>9 A. At a slightly higher risk, yes.</p> <p>10 Q. And do you know what that relative higher</p> <p>11 risk is?</p> <p>12 A. Not off the top of my head.</p> <p>13 Q. Would you agree that infertility, pelvic</p> <p>14 endometriosis, and obesity, did not likely</p> <p>15 contribute to her ovarian cancer?</p> <p>16 A. Yes, I agree.</p> <p>17 Q. The next sentence says, "Genetic</p> <p>18 counseling and testing to determine potential</p> <p>19 hereditary factors contributing to Ms. Carl's</p> <p>20 development of serous borderline tumor was</p> <p>21 recommended but not done." I couldn't find where</p> <p>22 that was recommended. Do you know who recommended</p> <p>23 that she get genetic testing?</p> <p>24 A. One of her treating physicians.</p> <p>25 Q. Because my understanding was her treating</p>

<p style="text-align: right;">Page 146</p> <p>1 physician said because it was a borderline tumor, 2 he wasn't going to recommend testing. 3 MR. HEGARTY: Objection to form. 4 THE WITNESS: Yeah, it was one of her 5 treating clinicians. 6 BY MR. DEARING: 7 Q. You don't remember which one? 8 A. I don't. 9 Q. Okay. I couldn't tell from those cites 10 which one. Anyway. As you sit here now, you don't 11 know who made that recommendation? 12 A. I don't remember, no. 13 Q. The next section is your examination of 14 the pathology slides section. And you state that, 15 "My review of the slides reveals that Ms. Carl's 16 tumor is a serous borderline tumor with 17 micropapillary features and noninvasive 18 desmoplastic and nondesmoplastic implants." 19 I have to admit, I have not seen that 20 term before. What is desmoplastic and 21 nondesmoplastic? 22 A. So desmoplasia is the reaction of the 23 tissue around the implant. And it is a fibrous 24 reaction. A lot of extracellular collagen. The 25 importance of that is that invasion -- I'm</p>	<p style="text-align: right;">Page 148</p> <p>1 demonstrably in the plane of or associated with 2 tissue, and uniformly lack the expected tissue 3 reaction that would corroborate a true foreign body 4 exposure." 5 You say, "As expected such particles 6 are rarely encountered in some of Ms. Carl's 7 pathology slides." For some reason that statement 8 doesn't make sense to me. Can you explain that? 9 Are you saying it is rarely encountered? 10 A. That means that there's not a lot of 11 them. 12 Q. Okay. Well, if talc is ubiquitous in the 13 tissue processing -- I'm sorry. If talc is 14 ubiquitous in the labs and in tissue processing, 15 wouldn't you expect to see talc on every 16 histological slide? 17 A. You pretty much see them on most 18 histological slides when you look for them. 19 Q. So that's not really rarely encountered. 20 That's frequently encountered; right? 21 A. Well, it's rarely encountered on a single 22 slide. 23 Q. Meaning? 24 A. There's not a lot of particles per 25 slides.</p>
<p style="text-align: right;">Page 147</p> <p>1 sorry -- desmoplasia is something that occurs when 2 some tumors invade. 3 Q. Okay. 4 A. Which is likely what made the treating 5 pathologist believe that it was an invasive 6 implant. But desmoplastic implants are well 7 described in the literature, and there are 8 morphologic features that separate it from invasive 9 implants. 10 Q. Are desmoplastic and nondesmoplastic 11 findings related to inflammation at all? 12 A. No. 13 Q. You state she had non-invasive 14 desmoplastic implants, and that her tumor was 15 disseminated at the time of the surgery. Are these 16 observations made from your review of slides or 17 review of the path report, or both? 18 A. They are strictly made from my review of 19 the slides. 20 Q. The end of the first full paragraph on 21 page 5 is a statement that you actually say in all 22 of these reports. It says, "As expected, such 23 particles are rarely encountered in some of 24 Ms. Carl's pathology slides, but these particles 25 are not confirmed to be talc and are not</p>	<p style="text-align: right;">Page 149</p> <p>1 Q. Okay. Meaning only a few particles per 2 slide? 3 A. Correct. 4 Q. But you would likely find them on almost 5 every slide, is what you're saying? 6 A. Correct. 7 Q. Okay. Just didn't understand that part 8 there. 9 In the first footnote on page 5 you 10 mention the pleurodesis. You say, "This property 11 of talc is why it has been used for decades to 12 obliterate the pleural space in patients with 13 recurrent pleural effusions." 14 Would you agree with me that 15 pharmaceutical grade talc is what's used in talc 16 pleurodesis procedures? 17 A. I believe so, yes. 18 Q. Or medical grade? 19 A. I believe so. 20 Q. And do you understand that there's a 21 difference between pharmaceutical or medical grade 22 talc and cosmetic grade talc? 23 A. Yes. 24 MR. HEGARTY: Objection to form. 25 THE WITNESS: There are differences</p>

<p style="text-align: right;">Page 150</p> <p>1 between the two.</p> <p>2 BY MR. DEARING:</p> <p>3 Q. One of those differences would be the</p> <p>4 size of the talc particles; right?</p> <p>5 A. Yes, the mean size of pharmaceutical</p> <p>6 grade talc is larger than the mean size of cosmetic</p> <p>7 talc, but there's overlap.</p> <p>8 Q. Exactly. And the reason you want to use</p> <p>9 larger talc particles in talc pleurodesis is you're</p> <p>10 trying to invoke that inflammatory reaction that</p> <p>11 includes the granulomas and the giant cells, right,</p> <p>12 to fill the pleural space. So the larger the talc,</p> <p>13 the more of the inflammatory -- or the greater the</p> <p>14 inflammatory response; correct?</p> <p>15 MR. HEGARTY: Objection to form.</p> <p>16 THE WITNESS: I'm not certain that that</p> <p>17 is correct, because cosmetic talc does elicit a</p> <p>18 foreign body reaction, including granulomatous</p> <p>19 inflammation.</p> <p>20 BY MR. DEARING:</p> <p>21 Q. But you know cosmetic talc also elicits a</p> <p>22 lesser inflammatory reaction like a macrophage</p> <p>23 reaction; right?</p> <p>24 MR. HEGARTY: Objection to form.</p> <p>25 THE WITNESS: Yes. So the cosmetic talc</p>	<p style="text-align: right;">Page 152</p> <p>1 injected into the space?</p> <p>2 A. Yes, it would. Obviously there's enough</p> <p>3 talc to obliterate the entire pleural space, so</p> <p>4 it's -- if there -- if you just put in a couple of</p> <p>5 droplets, it wouldn't obliterate the space.</p> <p>6 Q. And my point of asking is once the space</p> <p>7 is obliterated, the inflammation curtails; right?</p> <p>8 A. No, the inflammation remains static, and</p> <p>9 it remains static for pretty much the lifetime of</p> <p>10 the patient.</p> <p>11 Q. And most of those patients that get the</p> <p>12 pleurodesis procedure are already in end stage of</p> <p>13 disease; right?</p> <p>14 MR. HEGARTY: Objection to form.</p> <p>15 THE WITNESS: That's -- that is -- I</p> <p>16 don't have the statistics, but a very common reason</p> <p>17 to perform pleurodesis are pulmonary blebs from</p> <p>18 patients with emphysema. And those patients are</p> <p>19 not end stage at all. And there's publications</p> <p>20 with follow-up of over 20 years on some of these</p> <p>21 patients.</p> <p>22 BY MR. DEARING:</p> <p>23 Q. Well, some of them aren't. But would you</p> <p>24 agree most of the patients that undergo pleurodesis</p> <p>25 are end stage disease?</p>
<p style="text-align: right;">Page 151</p> <p>1 ranges in size from slightly over a micron to up to</p> <p>2 30 microns. Anything under five will more likely</p> <p>3 be phagocytized by a macrophage. Anything over</p> <p>4 five will form a granulomatous reaction.</p> <p>5 BY MR. DEARING:</p> <p>6 Q. Okay. Of course presumably, medical</p> <p>7 grade talc or pharmaceutical grade talc doesn't</p> <p>8 contain asbestos; right?</p> <p>9 MR. HEGARTY: Objection to form.</p> <p>10 THE WITNESS: Does not contain</p> <p>11 significant amount of asbestos; correct.</p> <p>12 BY MR. DEARING:</p> <p>13 Q. And would you describe the inflammatory</p> <p>14 reaction in the pleurodesis procedure as an acute</p> <p>15 reaction as opposed to a chronic reaction or acute</p> <p>16 inflammation versus chronic inflammation?</p> <p>17 A. No, it does not cause acute inflammation.</p> <p>18 Q. Okay. How would you describe the</p> <p>19 inflammation it causes?</p> <p>20 A. It causes foreign body granulomatous</p> <p>21 reaction.</p> <p>22 Q. Is it an ongoing reaction, or once the</p> <p>23 pleural spaces are filled -- well, let me ask you.</p> <p>24 Does the degree of reaction depend on the amount of</p> <p>25 talc injected into the -- or the talc slurry</p>	<p style="text-align: right;">Page 153</p> <p>1 MR. HEGARTY: Objection to form.</p> <p>2 THE WITNESS: I don't know the answer</p> <p>3 to that question. I don't know how many are</p> <p>4 for -- for malignant infusions versus how many are</p> <p>5 for pulmonary blebs.</p> <p>6 BY MR. DEARING:</p> <p>7 Q. Since your specialty is gynecologic</p> <p>8 pathology, do you have a lot of personal experience</p> <p>9 with pleurodesis in pulmonary pathology?</p> <p>10 A. I've ran -- I've run into, it's either</p> <p>11 three or four cases in which I performed an autopsy</p> <p>12 on a patient who had undergone pleurodesis.</p> <p>13 Q. And that -- that experience with those</p> <p>14 three or four patients, is that what you're relying</p> <p>15 on for your opinions about the -- whether the</p> <p>16 inflammatory reaction is acute or chronic or -- or</p> <p>17 granulomatous?</p> <p>18 MR. HEGARTY: Objection to form.</p> <p>19 THE WITNESS: So I rely on the literature</p> <p>20 as well. The literature -- nowhere in the</p> <p>21 literature does it state that you get acute</p> <p>22 inflammation when you -- when you expose body</p> <p>23 tissues to talc. And the literature does state</p> <p>24 that when granulomas are seen many years after the</p> <p>25 formation of -- of the granulomatous reaction</p>

<p style="text-align: right;">Page 154</p> <p>1 which --</p> <p>2 BY MR. DEARING:</p> <p>3 Q. But I'm referring to pleurodesis right</p> <p>4 now.</p> <p>5 A. Yes.</p> <p>6 Q. Okay.</p> <p>7 A. So both the literature and my experience</p> <p>8 is that the granulomas are long term.</p> <p>9 Q. Isn't it true that most patients who</p> <p>10 undergo talc pleurodesis already have some type of</p> <p>11 cancer?</p> <p>12 MR. HEGARTY: Objection, asked and</p> <p>13 answered.</p> <p>14 BY MR. DEARING:</p> <p>15 Q. No, I said end stage disease before.</p> <p>16 This is a little different.</p> <p>17 A. So I -- anybody who has a malignant</p> <p>18 infusion is close -- very close to being end stage.</p> <p>19 But to answer that question, again, I</p> <p>20 don't know the percentage of cases that undergo</p> <p>21 talc pleurodesis who are malignant. It could be</p> <p>22 more than 50 percent. It could be less than</p> <p>23 50 percent. I just don't know.</p> <p>24 Q. Okay. Incidentally, while we're talking</p> <p>25 about particle sizes, surgical gloves were dusted</p>	<p style="text-align: right;">Page 156</p> <p>1 A. No.</p> <p>2 Q. That's why I was asking.</p> <p>3 A. No.</p> <p>4 Q. I'm sorry that wasn't very clear. So</p> <p>5 this hypothetical of perineal itching as a</p> <p>6 precursor that leads to ovarian cancer, that's not</p> <p>7 anything you've actually experienced in your</p> <p>8 clinical practice; right?</p> <p>9 A. Correct. It's a hypothetical.</p> <p>10 Q. At the top of page 7, you mention</p> <p>11 Dr. Wolf and her opinions.</p> <p>12 A. Yes.</p> <p>13 Q. And you state, "When evaluating cohort</p> <p>14 studies, there is no association between talc use</p> <p>15 and the development of ovarian cancer." And you</p> <p>16 cite O'Brien 2020.</p> <p>17 Would your opinions about talc and</p> <p>18 ovarian cancer be different if there was a cohort</p> <p>19 study that showed an association between talc use</p> <p>20 and development of ovarian cancer?</p> <p>21 A. No.</p> <p>22 MR. HEGARTY: Objection to form. Calls</p> <p>23 for speculation.</p> <p>24 BY MR. DEARING:</p> <p>25 Q. So your opinions about talc and ovarian</p>
<p style="text-align: right;">Page 155</p> <p>1 with industrial grade talc; right?</p> <p>2 A. I don't know.</p> <p>3 MR. HEGARTY: Objection.</p> <p>4 THE WITNESS: I don't know the answer to</p> <p>5 that question.</p> <p>6 BY MR. DEARING:</p> <p>7 Q. Okay. At the bottom of page 6 of this</p> <p>8 report you state that the talc use and ovarian</p> <p>9 cancer might be coincidental. And you say, for</p> <p>10 example, if the precursor lesions of ovarian cancer</p> <p>11 caused perineal itching, women might use talc in an</p> <p>12 attempt to soothe the discomfort.</p> <p>13 What precursor lesions to ovarian</p> <p>14 cancer might cause itching? What are you talking</p> <p>15 about?</p> <p>16 A. The earlier forms of -- of cell change</p> <p>17 that don't acquire the final mutation that causes</p> <p>18 it to be cancer.</p> <p>19 Q. That causes itching sometimes?</p> <p>20 A. It is clearly speculative here.</p> <p>21 Q. Okay.</p> <p>22 A. I'm just saying as an example, a</p> <p>23 hypothetical.</p> <p>24 Q. I didn't know if that was something that</p> <p>25 you encountered in your practice.</p>	<p style="text-align: right;">Page 157</p> <p>1 cancer are independent of the epidemiology studies;</p> <p>2 right?</p> <p>3 MR. HEGARTY: Objection to form.</p> <p>4 THE WITNESS: Correct.</p> <p>5 BY MR. DEARING:</p> <p>6 Q. Further down in that paragraph you state,</p> <p>7 "The absence of foreign body responses to tens of</p> <p>8 thousands of ovaries examined by me and numerous</p> <p>9 other gynecologic pathologist colleagues, despite</p> <p>10 the common use of perineal talc, is evidence that</p> <p>11 perineal talc does not reach the ovaries in any</p> <p>12 clinically significant quantity." What do you mean</p> <p>13 by "clinically significant quantity"?</p> <p>14 A. A quantity that would cause a reaction of</p> <p>15 the body to it.</p> <p>16 Q. Okay. So you don't seem to be saying</p> <p>17 that perineal talc application cannot reach the</p> <p>18 ovaries at all. You're saying it cannot reach the</p> <p>19 ovaries in any clinically significant quantity;</p> <p>20 right?</p> <p>21 MR. HEGARTY: Objection, form.</p> <p>22 BY MR. DEARING:</p> <p>23 Q. In other words, are you saying some</p> <p>24 particles might get there?</p> <p>25 A. Anything is possible. If it -- if any</p>

<p style="text-align: right;">Page 158</p> <p>1 particle of talc gets there, it doesn't do 2 anything.</p> <p>3 Q. Okay. You state in the next paragraph, 4 where you are discussing Dr. Godleski's findings, 5 you state, in the next to the last sentence in that 6 paragraph that it's important to note that the 7 particle, which is at least 350 microns in its 8 largest dimension, is not contained within a 9 macrophage. Is that a typo, or did you mean to say 10 350 microns?</p> <p>11 A. No, that's not a typo.</p> <p>12 Q. Okay. Well, you wouldn't expect to find 13 a 350 micron particle in a macrophage, would you?</p> <p>14 A. You would not. But then I go on in that 15 sentence to say that -- or otherwise associated 16 with a foreign body reaction.</p> <p>17 Q. You've stated in this report and in 18 previous testimony that talc found by 19 Dr. Godleski is most likely contamination that 20 occurs during the tissue process -- tissue 21 paraffination -- paraf -- am I saying that right?</p> <p>22 A. Just say processing.</p> <p>23 Q. When tissue is being processed. That was 24 a horrible -- I'm going to start that over. 25 You've stated in your report, you've</p>	<p style="text-align: right;">Page 160</p> <p>1 with your reports is your litigation history over 2 the preceding four years. And would you say that 3 those four years would be consistent with the 4 average of years that you've testified over the 5 past 20 years?</p> <p>6 A. It's changed somewhat.</p> <p>7 Q. How about just in the past twelve years, 8 are you -- is your annual litigation work about the 9 same?</p> <p>10 A. Very similar, yes.</p> <p>11 Q. With an exception for the COVID year 12 but -- okay.</p> <p>13 (Exhibit 4 marked for identification.)</p> <p>14 BY MR. DEARING:</p> <p>15 Q. I'm showing you what I'm marking as 16 Exhibit Number 4, which are the invoices that I 17 received pertaining to Ms. Carl's case.</p> <p>18 And do these accurately reflect the 19 amount of time and income you have received from 20 your work on the Carl case as best as you and your 21 wife can recall?</p> <p>22 A. Yes, up to February of 2024.</p> <p>23 Q. Okay. Does any of the income you earned 24 in this litigation go to the Medical College of 25 Wisconsin?</p>
<p style="text-align: right;">Page 159</p> <p>1 testified that the talc found by Dr. Godleski is 2 most likely to be the product of lab contamination 3 that occurred during tissue processing.</p> <p>4 Part of that process is the tissue 5 being dehydrated and then paraffinized. How does 6 talc infiltrate that process? In other words, 7 where does the talc contamination occur during that 8 process that would result in talc actually being in 9 the corpus of the tissue?</p> <p>10 A. Sure. So when -- when the tissue is 11 dehydrated with serial dilutions of alcohol, and 12 then the alcohol is removed by using an organic 13 solvent, xylene, the membranes of the cells become 14 permeable and allow the passage of paraffin. We 15 know that paraffin is contaminated with particles. 16 Commercial paraffin contains numerous particles, 17 including talc.</p> <p>18 Q. Is that published somewhere? I mean, how 19 do you know that?</p> <p>20 A. It's in the product inserts.</p> <p>21 Q. Okay.</p> <p>22 A. So when the tissue goes from xylene to 23 xylene plus paraffin, you basically can permeate 24 the entire thing with particles.</p> <p>25 Q. Okay. One of the things you provided</p>	<p style="text-align: right;">Page 161</p> <p>1 A. No.</p> <p>2 Q. Does it go to anyone other than you?</p> <p>3 A. Well, I have a corporation.</p> <p>4 Q. Okay.</p> <p>5 A. And it would -- with which I pay 6 employees.</p> <p>7 Q. Okay. I'm not aware of that. Can you 8 tell me about that? What's the name of your 9 corporation?</p> <p>10 A. It's called Women's Pathology Services, 11 LLC.</p> <p>12 Q. What is the business of that corporation?</p> <p>13 A. It is -- it handles all of my medicolegal 14 work as well as pharmaceutical trials. I think 15 that's basically it.</p> <p>16 Q. So the income derived from litigation 17 goes -- is paid to the corporation. And then does 18 the corporation pay you a salary, or how does that 19 work?</p> <p>20 A. Correct, yes, it does. I take it as 21 income.</p> <p>22 Q. Okay. Is your wife an employee of the 23 corporation?</p> <p>24 A. Yes.</p> <p>25 Q. Do you have other employees?</p>

<p style="text-align: right;">Page 162</p> <p>1 A. My daughters work -- work for me 2 sometimes. 3 Q. Are they pathologists? 4 A. No. 5 Q. What kind of work do they do for you? 6 A. They -- they will sometimes summarize 7 records for me. One of my daughters is a nurse. 8 She's very adept at going through medical records. 9 Q. Did your daughters do any work in these 10 seven cases? 11 A. I don't think so. Most of the work that 12 they do is on birth injury. 13 Q. How much do you think Johnson & Johnson 14 or their lawyers have paid you for your litigation 15 work since you started twelve or so years ago? 16 A. It's possibly in the neighborhood of 17 getting close to a million dollars. 18 Q. And any idea about how much of 19 outstanding work exists that you haven't been paid 20 for? In other words, about how much do they owe 21 you now that you haven't invoiced for? 22 A. Oh, I have no idea. Yeah, I -- 23 Q. I assume you plan to invoice them for the 24 work in these seven cases that you haven't billed 25 them for yet?</p>	<p style="text-align: right;">Page 164</p> <p>1 chain of custody documents, copies of which that 2 Dr. Felix still has? 3 MR. DEARING: Yes, if he made copies of 4 any them, or if you guys have them. I don't know 5 if there is one even. But if there is one, I'd 6 like to see a copy of it. I don't know who's 7 actually maintaining it. 8 MR. HEGARTY: We'll follow up on that. 9 MR. DEARING: Okay. I know sometimes we 10 don't have chain of custody forms. And maybe we 11 don't in this one, 'cause it was a long time ago. 12 BY MR. DEARING: 13 Q. In the -- in your CV, at the end of your 14 CV -- I mentioned I was going to ask you about the 15 case control study of ovarian cancer that you 16 worked on. It shows the dates of 1993. It's in 17 your grants section. 18 A. My what? 19 Q. Research grants that you received. You 20 identify a case control study of ovarian cancer. 21 My pages to your CV aren't numbered, but it's sort 22 of right in the middle. Anyway, you received \$1.5 23 million, looks like, from the NCI. Do you see what 24 I'm referring to? 25 A. Yeah, I was just co-investigator on that.</p>
<p style="text-align: right;">Page 163</p> <p>1 A. Yes, I do plan on doing that. 2 MR. DEARING: Mark, I would just request 3 that we get provided with those invoices should 4 they ever be made. 5 MR. HEGARTY: We will provide those 6 invoices. 7 THE WITNESS: While you look, I'm going 8 to take a couple minutes' break to run to the 9 restroom. 10 MR. HEGARTY: Let's go off the record. 11 (Break taken.) 12 BY MR. DEARING: 13 Q. So the last question I wanted to ask you 14 about Carl is whether you have copies of any chain 15 of custody documents related to the slides. I 16 don't, or I'd show them to you. I don't know that 17 any exist. I'm just asking. 18 A. I'm pretty sure they do exist. 19 Q. Okay. 20 A. I don't have them with me. 21 Q. That was one of the things we asked to be 22 produced in the notice of deposition, so I would 23 ask that they get produced if they -- if you have 24 them. I don't have any. 25 MR. HEGARTY: You're talking about any</p>	<p style="text-align: right;">Page 165</p> <p>1 I did not receive a million and a half. 2 Q. So what was that case control study 3 about? That's really my question. 4 A. I believe it was about borderline tumors. 5 Jesus, it was so long ago. 6 Q. Do you know if it was ever published, any 7 results were ever published? 8 A. I'm sure there were some results 9 published. My role was in -- basically doing 10 a -- if memory serves me, is doing a validation of 11 diagnoses on a -- I believe ten percent of the 12 cases they were able to retrieve. 13 Q. Okay. 14 A. Just to confirm the histology. 15 Q. Moving to the next case, Diana 16 Balderrama. First let me ask you: Does your 17 report contain all of your opinions that you intend 18 to offer in this case? 19 A. Yes. 20 Q. Are there any materials not listed on 21 your reference list that you're relying on for your 22 opinions in this case? 23 A. No. 24 Q. And in your opinion, was Ms. Balderrama's 25 cancer properly diagnosed by her treating</p>

<p style="text-align: right;">Page 166</p> <p>1 pathologist?</p> <p>2 A. Kind of.</p> <p>3 Q. Can you explain that?</p> <p>4 A. So the treating pathologist diagnosed her</p> <p>5 endometrial cancer, and the treating pathologist</p> <p>6 diagnosed her ovarian cancer, and then was</p> <p>7 noncommittal as to whether it was a single tumor</p> <p>8 versus synchronous primaries. And so it is my</p> <p>9 opinion that that is highly likely that this is a</p> <p>10 metastatic endometrial cancer for a variety of</p> <p>11 reasons.</p> <p>12 Q. When you say the pathologist was</p> <p>13 noncommittal, they did ultimately opine that these</p> <p>14 were synchronous tumors; right?</p> <p>15 A. I -- let me find the report. Yeah, I</p> <p>16 don't think that the pathologist -- I don't think</p> <p>17 she definitively diagnosed it as synchronous. She</p> <p>18 said the lack of ovarian endometriosis would favor</p> <p>19 secondary involvement from an endometrial tumor,</p> <p>20 while the overall size of the ovarian neoplasm and</p> <p>21 unilateral involvement of the ovary would suggest a</p> <p>22 primary independent ovarian neoplasm. So she's</p> <p>23 noncommittal.</p> <p>24 Q. In the microscopic description section of</p> <p>25 the pathology report, she goes through section A</p>	<p style="text-align: right;">Page 168</p> <p>1 A. Okay.</p> <p>2 Q. And you can see where she's writing in</p> <p>3 the section B of the microscopic description and</p> <p>4 diagnosis, she makes reference to synchronous</p> <p>5 neoplasm. So isn't she committing, by doing that,</p> <p>6 to say that these are most likely synchronous</p> <p>7 tumors?</p> <p>8 A. I mean, in one part of her report she</p> <p>9 says she can't be sure, and --</p> <p>10 Q. Right. Do you recall seeing in other</p> <p>11 parts of the medical records where the treating</p> <p>12 surgeon opined that these were synchronous tumors?</p> <p>13 A. I do recall reading that, several people</p> <p>14 who referred to it as synchronous, yes.</p> <p>15 Q. So is it your opinion that they</p> <p>16 just -- they got it wrong?</p> <p>17 A. Yes. It is not -- if you read the latest</p> <p>18 treaties on this, there is -- there is no certainty</p> <p>19 as to the -- as to the classification of</p> <p>20 synchronous versus metastatic. There are criteria</p> <p>21 that, when fulfilled, lead you to say one versus</p> <p>22 the other. The criteria include to have it</p> <p>23 synchronous, it must be less than half mononuclear</p> <p>24 invasion.</p> <p>25 Q. Isn't this right on that?</p>
<p style="text-align: right;">Page 167</p> <p>1 and describes the right fallopian tube and ovary</p> <p>2 with an endometrioid adenocarcinoma. And then she,</p> <p>3 in section B, describing the uterus and</p> <p>4 endometrium, she refers to an endometrioid</p> <p>5 adenocarcinoma. And below that she writes</p> <p>6 synchronous neoplasm, and she describes the acidic</p> <p>7 fluid and other things.</p> <p>8 A. I'm sorry, what page is that?</p> <p>9 Q. Well, the same page you were just reading</p> <p>10 from. Hold on. And then at the bottom -- so this</p> <p>11 is where you were just reading from. If you go</p> <p>12 down to the bottom, there's A and B. And the next</p> <p>13 page is where B continues.</p> <p>14 A. My report is formatted differently than</p> <p>15 yours.</p> <p>16 Q. Okay.</p> <p>17 A. May I see?</p> <p>18 Q. Sure. Let me mark this one as an</p> <p>19 exhibit, and I'll give you this one.</p> <p>20 (Exhibit 5 marked for identification.)</p> <p>21 BY MR. DEARING:</p> <p>22 Q. So I'm marking as Exhibit 5 the</p> <p>23 Providence Holy Cross Medical Center pathology</p> <p>24 report, which has a Bates stamp on it of</p> <p>25 DBalderramaPL-PHCMC-000183.</p>	<p style="text-align: right;">Page 169</p> <p>1 A. Dr. Sampson diagnoses it as outer half</p> <p>2 greater than 50 percent. Then she -- the other</p> <p>3 criteria is that it's not -- it's stage -- it can't</p> <p>4 be disseminated or have involvement of other</p> <p>5 organs. Her cervix is involved, so that would make</p> <p>6 her a stage two endometrial cancer. And because of</p> <p>7 those two reasons, I would classify it as a</p> <p>8 metastatic endometrial cancer of the ovary.</p> <p>9 Q. Isn't the degree of invasion sort of</p> <p>10 right on the dividing line? In other words --</p> <p>11 A. It's greater than 50 percent. So these</p> <p>12 are not -- these are not optional criteria. These</p> <p>13 are -- FIGO defines it as 50.0001 percent invasion</p> <p>14 is outer half.</p> <p>15 Q. Okay.</p> <p>16 A. Okay? So it's -- it's sort of like a</p> <p>17 501, two, or three. You can't say 501 to two.</p> <p>18 Q. Is it fair to say that the hospital</p> <p>19 pathologist interpreted the degree of invasion</p> <p>20 different than you did?</p> <p>21 A. No, her degree of invasion is 1.2 out of</p> <p>22 2.2, greater than 50 percent. That would be on the</p> <p>23 same place where she calls it synchronous.</p> <p>24 Q. Okay. Let me ask you about endometrial</p> <p>25 carcinomas. Type one, the distinction between</p>

<p style="text-align: right;">Page 170</p> <p>1 endometrial carcinomas between type one and type 2 two occurs in order to distinguish which tumors are 3 influenced by hormones; right? In other words, 4 type ones are typically influenced by hormones, 5 type twos are not? 6 MR. HEGARTY: Objection to form. 7 THE WITNESS: Right. 8 BY MR. DEARING: 9 Q. And type one endometrial carcinomas, 10 which would include endometrioid carcinomas, are 11 thought to be influenced by estrogen and other 12 hormones; right? 13 A. Correct. 14 Q. And first let me ask you: It's my 15 understanding that that may be somewhat of an 16 antiquated distinction or maybe even a distinction 17 without as much relevance now as it was when it 18 first came out. Do you agree with that suggestion? 19 A. No. 20 Q. Okay. Good. Are endometrioid ovarian 21 cancers susceptible to hormones the way 22 endometrial -- endometrioid endometrial cancers 23 are? 24 A. Less well proven, but likely. 25 Q. Serous endometrial cancers are type two;</p>	<p style="text-align: right;">Page 172</p> <p>1 Q. You stated that her Ms. Balderrama's 2 medical history is significant for obesity, 3 infertility, probable polycystic ovarian syndrome, 4 left salpingectomy due to ectopic pregnancy, and 5 five hysteroscopies with endometrial biopsy. Does 6 any of her medical history as it's described there 7 increase her risk of getting endometrioid ovarian 8 carcinoma, even though I know you're saying that's 9 not what she has. I guess we can break that down. 10 Do you think obesity is a risk factor 11 for endometrioid ovarian cancer? 12 A. Not to my awareness. 13 Q. What about infertility? Is infertility a 14 risk factor for endometrioid adenocarcinoma cancer 15 of the ovary? 16 A. I don't think so, so. 17 Q. What about polycystic ovarian syndrome? 18 A. It is not. 19 Q. Do you believe that obesity is a risk 20 factor for endometrial -- endometrioid endometrial 21 carcinoma? 22 A. Yes. 23 Q. And is that because obese woman have 24 excess estrogen, typically? 25 A. Yes.</p>
<p style="text-align: right;">Page 171</p> <p>1 correct? 2 A. Correct. 3 Q. In other words, they're not thought to be 4 very influenced by hormones; correct? 5 A. Correct. 6 Q. I'll follow up with that in a minute. So 7 it's your opinion in Balderrama that she doesn't 8 have an ovarian cancer at all, she just has a 9 metastasized endometrial cancer that metastasized 10 to the ovary? 11 A. That's correct. 12 Q. And your support for that conclusion is 13 the criteria that you just went through a minute 14 ago? 15 A. Yes. 16 Q. She was diagnosed at age 37. Would you 17 agree with me that that's 20 years or so younger 18 than the mean age of a woman diagnosed with 19 endometrioid carcinomas -- 20 A. Yes. 21 Q. -- of the ovary? 22 A. Yes. 23 Q. Okay. Is there a mean age of women 24 diagnosed with endometrioid endometrial carcinomas? 25 A. Yes. It's also -- it's also in the 50s.</p>	<p style="text-align: right;">Page 173</p> <p>1 Q. Because estrogen of being stored in the 2 fat cells and that kind of thing. 3 A. Yeah, so -- yes. 4 Q. And I'm simplifying that -- 5 A. Yes, you are. 6 Q. -- much more than it probably is, but... 7 What about those other medical 8 findings, the infertility, polycystic ovarian 9 syndrome, did those increase her risk of 10 endometrial cancer? 11 A. Yes. 12 Q. All of them? Well, infertility did. 13 A. Well, because a significant percentage of 14 infertility people have polycystic ovary disease or 15 are obese, the association is present with 16 infertility. 17 Q. So the infertility may be attributed to 18 those other things which make it a risk factor for 19 uterine cancer. 20 A. You are correct. Which is the bugger 21 about associations. 22 Q. You talk about her family history here, 23 that she has a maternal aunt with possible uterine 24 cancer, and a maternal great aunt or great 25 grandmother with breast cancer. Neither of those</p>

<p style="text-align: right;">Page 174</p> <p>1 two family member cancers increased her risk of</p> <p>2 ovarian cancer, did they?</p> <p>3 A. No.</p> <p>4 Q. And you state that she had no genetic</p> <p>5 testing; right?</p> <p>6 A. Correct.</p> <p>7 Q. If she had a full panel of genetic</p> <p>8 testing which proved to be negative, would that</p> <p>9 influence your opinion about her condition at all?</p> <p>10 A. No.</p> <p>11 Q. You just described the criteria that's</p> <p>12 used in your opinion to determine whether this</p> <p>13 ovarian tumor is truly an ovarian cancer or whether</p> <p>14 it's metastasis from the uterus. Were there any</p> <p>15 other observations or considerations that you</p> <p>16 recognized or identified that led to that</p> <p>17 conclusion, or are you basing it solely on the</p> <p>18 criteria that you described?</p> <p>19 MR. HEGARTY: Objection to form.</p> <p>20 THE WITNESS: I am basing it on the</p> <p>21 criteria. It is now well established that whether</p> <p>22 the tumors -- synchronous tumors of the uterus and</p> <p>23 ovary, although they behave in two different ways,</p> <p>24 the molecular biology of these tumors show that</p> <p>25 they're all endometrial metastasis.</p>	<p style="text-align: right;">Page 176</p> <p>1 findings include a focus of endometriosis in the</p> <p>2 left ovary that was not originally detected. If</p> <p>3 your opinion is that this was a metastasis of the</p> <p>4 endometrium, the endometriosis did not contribute</p> <p>5 to cause that cancer; correct?</p> <p>6 A. Correct.</p> <p>7 Q. I don't know how clear that question was.</p> <p>8 Let me ask a simpler way. Is it your opinion that</p> <p>9 her endometriosis -- strike that.</p> <p>10 Did Ms. Balderrama's endometriosis</p> <p>11 contribute to cause her cancer?</p> <p>12 A. No.</p> <p>13 Q. Thank you. Should have started with that</p> <p>14 one. I'm getting tired already.</p> <p>15 In preparing your report or reaching</p> <p>16 these opinions, did you read any other expert</p> <p>17 reports, defense expert reports?</p> <p>18 A. No.</p> <p>19 MR. HEGARTY: On that point, David, we</p> <p>20 didn't provide Dr. Felix with Dr. Cramer's reports,</p> <p>21 and he's not had a chance yet to read through</p> <p>22 those. And we anticipate that he would -- he will</p> <p>23 comment on Dr. Cramer's reports as he's commented</p> <p>24 on Dr. Wolf and Dr. Clarke-Pearson's reports via</p> <p>25 supplemental report.</p>
<p style="text-align: right;">Page 175</p> <p>1 BY MR. DEARING:</p> <p>2 Q. So are you saying it's not possible at</p> <p>3 all that her endometrial tumor could be an ovarian</p> <p>4 metastasis?</p> <p>5 A. Correct.</p> <p>6 Q. Does that just never happen? Why --</p> <p>7 A. It just -- yeah, it -- it just doesn't</p> <p>8 happen.</p> <p>9 Q. Okay. Do you have any opinions about how</p> <p>10 she developed metastatic tumor on her ovary from</p> <p>11 the endometrium?</p> <p>12 A. Sure. There's several roots for it. One</p> <p>13 of them is direct spread through the fallopian</p> <p>14 tubes.</p> <p>15 Q. The same way endometriosis would spread?</p> <p>16 A. Correct. And then the other would be</p> <p>17 through lymphatics.</p> <p>18 Q. Would you agree with me that there is no</p> <p>19 evidence of metastasis anywhere else in her tissue?</p> <p>20 A. To the cervix.</p> <p>21 Q. Oh, there was metastasis to the cervix?</p> <p>22 A. Yes.</p> <p>23 Q. Did you look at those slides --</p> <p>24 A. Yes.</p> <p>25 Q. -- specifically? You also say that other</p>	<p style="text-align: right;">Page 177</p> <p>1 And obviously, to the extent that</p> <p>2 we do that and you need some time to ask Dr. Felix</p> <p>3 about his review of that -- Dr. Cramer's reports in</p> <p>4 this case and what he wrote, then we will, I'm</p> <p>5 sure, come to an accommodation about that.</p> <p>6 MR. DEARING: Okay. Thank you.</p> <p>7 MR. HEGARTY: So, yeah, we have provided</p> <p>8 to Dr. Felix Dr. Cramer's report.</p> <p>9 THE WITNESS: I think he said defense.</p> <p>10 MR. DEARING: I did say defense, but I</p> <p>11 was going to ask plaintiff.</p> <p>12 MR. HEGARTY: You're right. I jumped the</p> <p>13 gun.</p> <p>14 MR. DEARING: That's okay.</p> <p>15 BY MR. DEARING:</p> <p>16 Q. And with regard to plaintiff expert</p> <p>17 reports, you've read Dr. Godleski's report; right?</p> <p>18 A. Correct.</p> <p>19 Q. And you've not had a chance to read</p> <p>20 Dr. Cramer's report but you intend to?</p> <p>21 A. Yes.</p> <p>22 Q. You state in this middle paragraph on</p> <p>23 page 5, "Within the last ten years, molecular</p> <p>24 genetic data have accumulated to support the</p> <p>25 current understanding that the vast majority of</p>

<p style="text-align: right;">Page 178</p> <p>1 these synchronous primary tumors are clonal in 2 nature and represent metastatic endometrial 3 cancer." 4 Isn't it true that you can't 5 definitively establish clonal cells without doing 6 clonal testing? 7 A. That's what they did. 8 Q. Right. But that wasn't done in this 9 case -- 10 A. Oh, no, not in this case. 11 Q. -- in Balderrama. 12 A. I'm sorry. Yes. 13 Q. You state that these metastatic 14 endometrial tumors behave clinically like low-stage 15 neoplasms and carry a better prognosis than typical 16 stage 3A metastatic uterine carcinomas. Then you 17 say, "This may be due to restricted dissemination 18 of tumor cells through fallopian tubes rather than 19 metastasis through myometrial or lymphovascular 20 invasion." Can you just explain that sentence for 21 me? What is restricting dissemination through 22 fallopian tubes? 23 A. I'm sorry, I didn't -- I hope I didn't 24 say that. No. What I'm saying in that sentence is 25 that the different behavior, meaning if they're all</p>	<p style="text-align: right;">Page 180</p> <p>1 Q. Really? 2 A. Yeah. 3 Q. How do they move? 4 A. Through -- through cell membrane 5 undulations. There's actually assays that you can 6 do to test for that. 7 Q. Okay. I learn something every 8 deposition. 9 A. Me too. 10 Q. To be clear, is it your opinion that the 11 endometrial cancer metastasized to the ovary 12 through the fallopian tubes, or do we not know? 13 A. I do not know. In this case I know that 14 I did not find lymph vascular space involved in the 15 tumor. So possibly, but I -- you don't need to 16 detect lymph -- sorry. You can have cases in which 17 you cannot see lymph vascular space involvement in 18 the uterus where metastases to lymph nodes and 19 other organs are present. 20 Q. Are you able to opine one way or the 21 other which method of transport was most likely 22 given the facts of this case? 23 A. I cannot. 24 Q. In your general section entitled talc and 25 ovarian cancer on page 7, the first sentence of</p>
<p style="text-align: right;">Page 179</p> <p>1 metastatic because of clonal determinations, all of 2 them are clonal, then why do they behave 3 differently. And the reason these authors 4 postulated was that it was probably because the 5 tumor cells went to the ovary through the fallopian 6 tube rather than metastases through lymphatic or 7 hematogenous spread. So that may explain why these 8 tumors behaved better than stage three endometrial 9 cancer. 10 Q. How is the method by which they got there 11 make any difference in how they behave or respond? 12 A. Because dissemination to lymph nodes and 13 other organs occurs in -- with endometrial cancer 14 occurs almost exclusively by lymphatics. If the 15 tumor has not learned how to get into lymphatics, 16 then it will not metastasize. But if it does go 17 into the ovary through the fallopian tube, it 18 didn't need to learn how to metastasize yet. 19 Q. Well, obviously those tumor cells don't 20 have a means of motility, so are they swept up into 21 the fallopian tube the same way through retrograde 22 menstruation, or how do they get there? 23 A. Correct, through retrograde menstruation. 24 Q. Okay. 25 A. By the way, tumor cells are motile.</p>	<p style="text-align: right;">Page 181</p> <p>1 that section states that while some retrospective 2 case control studies have suggested a weak 3 association between perineal talc exposure and 4 ovarian cancers, others have not. 5 And my question is just in the world 6 of epidemiology, weak is sort of a term of art. 7 What -- what relative risk or hazard ratios are you 8 considering weak? 9 A. Under two. 10 Q. Anything under two is weak? 11 A. Yes. 12 Q. And then anything over two, would that be 13 moderate or strong or -- 14 MR. HEGARTY: Object to form. 15 THE WITNESS: Yeah, moderate or 16 indeterminate. 17 BY MR. DEARING: 18 Q. Okay. So in your opinion any relative 19 risk under two is weak? 20 A. Yes. 21 Q. Okay. Have you done any of the research 22 involving endocrine disrupting chemicals and their 23 association with uterine cancers? 24 A. No. I don't even know what an endocrine 25 disrupting chemical is.</p>

<p style="text-align: right;">Page 182</p> <p>1 Q. Okay. In the next section on page 9 is 2 where you start responses to plaintiff experts. 3 And this section really is just in response to 4 Dr. Godleski's findings. 5 In most and possibly all of these 6 reports you make the statement that none of this 7 birefringent material was subjected to SEM EDS 8 analysis to determine if it is compositionally 9 consistent with talc or if, more likely, it is 10 consistent with the 477 non-talc particles 11 identified by SEM EDS in Ms. Balderrama's two 12 pathology specimens. 13 If talc is ubiquitous, why is it more 14 likely that those particles, those birefringent 15 particles, are not talc? 16 A. Okay, so you've used that term several 17 times, ubiquitous. 18 Q. Right. 19 A. What -- what are you -- what are you 20 intending to mean by that? 21 Q. Let me just ask it more generally. Why 22 is it more likely -- why are you using the phrase 23 "more likely" there to describe that the 24 birefringent particles are more likely the non-talc 25 particles versus talc?</p>	<p style="text-align: right;">Page 184</p> <p>1 in a pathology lab that would contaminate tissue 2 the way you say talc is a contaminant. But without 3 knowing what those particles are, I guess you can't 4 answer that question. 5 A. I can't. 6 Q. So logistically, or just practically 7 speaking, when Johnson & Johnson's attorneys 8 provide you with Dr. Godleski's report, do 9 they -- are they not also providing you all of the 10 data points that -- that were provided to them? In 11 other words, do you just get that report e-mailed 12 to you, or how does that work? 13 A. Yeah, I don't remember whether it was in 14 a Box file or whether it was sent to me by e-mail. 15 I just don't remember. Likely in a Box file, it's 16 been their habit and custom. 17 Q. A box file. You mean Dropbox, or are you 18 talking about a hard copy? 19 A. Well, there's Dropbox and Box. They're 20 similar file sharing. 21 Q. But you're talking about electronic 22 transmission -- 23 A. Yes. 24 Q. -- not hard copies. Okay. Do you have 25 any way of opining whether those 477 non-talc</p>
<p style="text-align: right;">Page 183</p> <p>1 A. By Dr. Godleski's own data. His -- his 2 -- he discovered more non-talc particles than talc 3 particles. 4 Q. Did you look at his data to read what 5 those non-talc particles were? 6 A. I don't think he discloses that in his 7 report. 8 Q. I don't know if it's in his report. It's 9 usually in his data, though, that we send with the 10 report, the data files. 11 So -- well, let me ask you. When you 12 were provided Dr. Godleski's report, were you also 13 provided the Dropbox link that had all of his data 14 files in it? 15 A. I don't believe so. 16 Q. Okay. Would that be true of all these 17 cases? 18 A. I know that I received additional images, 19 but I don't think I saw raw data. 20 Q. Okay. Like SEM spectra, you don't think 21 you've looked at those? 22 A. Only the ones in his report. 23 Q. Okay. Well, I was going to ask you 24 whether examples of those other 40 -- 477 non-talc 25 particles are things that you would typically find</p>	<p style="text-align: right;">Page 185</p> <p>1 particles are lab contaminants? 2 A. They would have to be because there is no 3 foreign body reaction to them. 4 Q. Well -- 5 A. So the -- so they can't be -- have been 6 particles acquired by the patient while the ovary 7 was vital, meaning not removed. 8 Q. So presumably we're talking about 9 exogenous materials here as these contaminants, 10 exogenous meaning they're not naturally occurring 11 inside the body? 12 A. Correct. 13 Q. Would you agree with me that there are 14 endogenous materials that would evoke an 15 inflammatory reaction like macrophages? And we 16 mentioned one of them already, dead cancer cells. 17 A. Yes. 18 Q. Calcium, for example, may elicit an 19 inflammatory reaction; right? 20 A. Most calcium deposits do not elicit an 21 inflammatory reaction. 22 Q. Okay. What about the presence of iron, 23 would iron in an adequate quantity elicit an 24 inflammatory response? 25 A. Some forms of iron would, yes. And he</p>

<p style="text-align: right;">Page 186</p> <p>1 does provide some -- some information about that in 2 his report. He says a total of 486 particles were 3 found, and analyzed tissues may have carbonaceous 4 material detected in backscatter electron 5 microscopy mode. 6 Q. Right. Most of the carbon he's referring 7 to is endogenous; right? 8 MR. HEGARTY: Objection to form. 9 BY MR. DEARING: 10 Q. I mean, tissue is made up mostly of 11 carbon, isn't it? 12 A. Not -- not elemental carbon, though. 13 Q. Okay. 14 A. Dr. Godleski's making assumptions in that 15 paragraph. 16 Q. Which paragraph? 17 A. The one that I was reading from. 18 Q. What do you mean? Can you just tell me 19 what -- 20 A. Sure. He says the fact that 21 calcification is frequently found in ovarian cancer 22 and often readily seen by line microscopy supports 23 the likelihood of many particles having that 24 composition. I mean, the calcification seen in 25 ovarian cancer are -- are not refringent.</p>	<p style="text-align: right;">Page 188</p> <p>1 orientation and cellular contents is better when 2 you're actually looking into the micrograph -- I 3 mean looking into the microscope as opposed to when 4 you're looking at a two-dimensional micrograph? 5 A. Yes. 6 Q. At the bottom of page 9 in that paragraph 7 you state, "Dr. Godleski uses SEM to determine the 8 relative chemical composition of particulate 9 material on the surface of the processed tissue 10 specimens." 11 And I've already suggested to you 12 that's not what he's doing, that he's using 13 pressure -- variable pressure SEM to look below the 14 surface. Then you say, "His SEM images do not 15 provide enough detail to identify the nature of the 16 cells present in any of the particulate matter -- 17 particulate material being analyzed." 18 Would you agree that looking directly 19 at the SEM images as they occur in the instrument 20 will give you a more detailed and better vantage 21 point than looking at two-dimensional photographs? 22 MR. HEGARTY: Objection to form. 23 THE WITNESS: I don't know. 24 BY MR. DEARING: 25 Q. We did not receive any invoices</p>
<p style="text-align: right;">Page 187</p> <p>1 Q. Okay. I thought he was talking about 2 SEM. Particles identified by SEM, not birefringent 3 particles. 4 A. Well, the ones that he's -- does SEM on 5 are refringent. 6 Q. Can you see refringence in SEM? 7 A. No. 8 Q. Okay. So he's identifying particles with 9 SEM, but he's not commenting on their refringent 10 properties; right? 11 MR. HEGARTY: Objection to form. 12 THE WITNESS: He does both. He comments 13 on the refringence on the H&E, and then he comments 14 on the composition by SEM. 15 BY MR. DEARING: 16 Q. Right. But the particles he's 17 identifying as calcium he's identifying by SEM, 18 which are not birefringent and not polarized; 19 right? 20 A. Well, he says carbonaceous, not carbon; 21 right? Yes. 22 Q. Well, I thought you were talking about 23 calcium. Okay, let me move on. 24 Would you agree that microscopists' 25 ability to see and evaluate the depth and</p>	<p style="text-align: right;">Page 189</p> <p>1 associated with the Balderrama case. This case has 2 been pending for many years. Have you invoiced the 3 lawyers for Johnson & Johnson at all in this case 4 yet? 5 A. Not to the best of my knowledge, no. 6 Q. Do you know when you first started 7 working on this Balderrama report? 8 A. I don't recall. 9 Q. Would it have been in the last two years, 10 or did you start on it eight years ago or so when 11 we first started litigating Balderrama? 12 A. Was this part of the MDL group? 13 Q. Nope. 14 A. No. 15 Q. This is a New Jersey state court? 16 MR. HEGARTY: You don't need to look 17 anything up right now, but -- 18 THE WITNESS: Yeah, I don't recall. 19 BY MR. DEARING: 20 Q. Do you recall whether you participated in 21 a Kemp hearing, which is a -- like a Daubert 22 hearing in New Jersey, in Atlantic City? 23 A. No, I did not. 24 Q. So as you sit here now, to your 25 knowledge, you've never created any invoices in the</p>

<p style="text-align: right;">Page 190</p> <p>1 Balderrama case?</p> <p>2 A. Correct.</p> <p>3 Q. Did the lawyers for Johnson & Johnson</p> <p>4 send you the tissue blocks associated with</p> <p>5 Ms. Balderrama's case?</p> <p>6 A. They did not.</p> <p>7 Q. Did you request to see them?</p> <p>8 A. I did not.</p> <p>9 Q. Did you maintain any copies of the chain</p> <p>10 of custody paperwork that traveled with the slides?</p> <p>11 A. I don't remember.</p> <p>12 Q. Okay. Moving on to Ms. Rausa. And for</p> <p>13 your reference, the rest of these cases are in the</p> <p>14 MDL.</p> <p>15 A. Okay. Thank you.</p> <p>16 Q. The first two were in New Jersey state</p> <p>17 court.</p> <p>18 So first, does your report contain all</p> <p>19 of your opinions that you intend to offer in this</p> <p>20 case?</p> <p>21 A. Yes.</p> <p>22 Q. Are there any materials not listed on</p> <p>23 your reference list that you're relying on for your</p> <p>24 opinions in this matter?</p> <p>25 A. No.</p>	<p style="text-align: right;">Page 192</p> <p>1 state that genetic panel testing did not identify</p> <p>2 known pathogenic germline mutations, though she was</p> <p>3 found to have a variant of uncertain significance.</p> <p>4 Would you agree that nothing in her</p> <p>5 panel testing or tumor testing showed that she has</p> <p>6 a genetic mutation or any other finding known to</p> <p>7 increase her risk of ovarian cancer?</p> <p>8 A. Correct.</p> <p>9 Q. You state that her family history is</p> <p>10 unremarkable for cancer. Is it a fair statement to</p> <p>11 say that there's nothing in her family history</p> <p>12 that, as far as you know, would have increased her</p> <p>13 risk of ovarian cancer?</p> <p>14 A. That is correct.</p> <p>15 Q. To your knowledge, does she have any</p> <p>16 co-morbidities or other health conditions that may</p> <p>17 have increased her risk of getting high-grade</p> <p>18 serous carcinoma?</p> <p>19 A. No.</p> <p>20 Q. You make this recurring sentence in your</p> <p>21 reports on page 5, second paragraph, about three or</p> <p>22 four sentences in, you say, "In the absence of an</p> <p>23 associated foreign body reaction, including the</p> <p>24 presence of foreign body giant cells and/or</p> <p>25 particle-laden macrophages, foreign materials in</p>
<p style="text-align: right;">Page 191</p> <p>1 Q. And what did Johnson & Johnson's lawyers</p> <p>2 ask you to do in this case?</p> <p>3 A. They asked me to examine the pathology</p> <p>4 for -- to determine tumor type, stage, and whether</p> <p>5 there was any evidence that talc may have</p> <p>6 contributed to the genesis of the neoplasm.</p> <p>7 Q. In your opinion, was Ms. Rausa's cancer</p> <p>8 properly diagnosed by her treating pathologist?</p> <p>9 A. I'll take one second here, please. Yes,</p> <p>10 they did.</p> <p>11 Q. And do you disagree with any of the</p> <p>12 statements and opinions of Ms. Rausa's treating</p> <p>13 pathologist?</p> <p>14 A. I did not.</p> <p>15 Q. I should ask that more broadly. Do you</p> <p>16 disagree with any of the statements or opinions of</p> <p>17 any Ms. Rausa's treating physicians?</p> <p>18 A. Not that I can recollect.</p> <p>19 Q. In her clinical history, you state that</p> <p>20 she was diagnosed with stage 3A2 high-grade serous</p> <p>21 carcinoma of her right and left ovaries. Is that</p> <p>22 your understanding of her diagnosis? In other</p> <p>23 words, do you agree with that diagnosis?</p> <p>24 A. Yes.</p> <p>25 Q. Okay. Later in that same paragraph you</p>	<p style="text-align: right;">Page 193</p> <p>1 processed histology specimens is widely agreed by</p> <p>2 pathologists to be simple particulate contaminant</p> <p>3 introduced into the tissue at the time of surgical</p> <p>4 removal and/or tissue processing for histologic</p> <p>5 examination."</p> <p>6 When you say it's widely agreed, what</p> <p>7 source are you relying on for that, or is that just</p> <p>8 your personal experience?</p> <p>9 A. Yes, it's my -- my conversation with</p> <p>10 many -- many, many pathology colleagues.</p> <p>11 Q. Can you point to any publications</p> <p>12 that -- or sources -- that suggest that if talc is</p> <p>13 found in tissue where there's no evidence of</p> <p>14 foreign body reaction, it has to be contamination?</p> <p>15 A. I have referenced articles in which the</p> <p>16 authors state that there must -- that talc elicits</p> <p>17 a foreign body reaction. So if you don't see a</p> <p>18 foreign body reaction, then it has to have gotten</p> <p>19 in the tissue after it was devitalized.</p> <p>20 Q. You go on to say, "The only foreign</p> <p>21 particles identified within macrophages in</p> <p>22 Ms. Rausa's histology specimens were observed</p> <p>23 sequestered within the cytoplasm of macrophages in</p> <p>24 the left external iliac and periaortic lymph</p> <p>25 nodes." Was that an observation of her clinical</p>

<p style="text-align: right;">Page 194</p> <p>1 pathologist?</p> <p>2 A. You mean the pathologist at the</p> <p>3 hospital --</p> <p>4 Q. Yes.</p> <p>5 A. -- the treating? No, it was not.</p> <p>6 Q. Okay. So that was -- was that an</p> <p>7 observation you made?</p> <p>8 A. Yes.</p> <p>9 Q. Where is the left external iliac and</p> <p>10 periaortic lymph nodes?</p> <p>11 A. The external iliac artery vein in the</p> <p>12 lymphatic chain is the -- a branch of the aorta.</p> <p>13 It goes from common iliac to external iliac, which</p> <p>14 goes to perfuse the leg, and the internal iliac</p> <p>15 that goes to perfuse bladder, part of the rectum,</p> <p>16 and the genital organs. So it is in the external</p> <p>17 iliac would be the divergence of the common iliac</p> <p>18 to the artery that would go towards the leg.</p> <p>19 Q. Okay. So does the pelvic -- does the</p> <p>20 pelvis drain into those lymphatic -- those lymph</p> <p>21 nodes?</p> <p>22 A. Parts of the pelvis can. The external</p> <p>23 iliac usually associated with -- with vulva, vagina</p> <p>24 and cervix more than with uterus and ovary. Those</p> <p>25 would have more of a tendency to go to the internal</p>	<p style="text-align: right;">Page 196</p> <p>1 whose sister was -- had a confirmed diagnosis of</p> <p>2 breast cancer; right?</p> <p>3 A. Correct.</p> <p>4 Q. And that's a pretty large database, isn't</p> <p>5 it?</p> <p>6 A. It's not as large as the women's health</p> <p>7 initiative, but it's fairly large.</p> <p>8 Q. I mean, since you cited that study in</p> <p>9 every report, do you believe that -- that that</p> <p>10 database that that study derives from is a -- is a</p> <p>11 good and reliable database?</p> <p>12 MR. HEGARTY: Objection to form.</p> <p>13 THE WITNESS: I think it's as good as it</p> <p>14 gets.</p> <p>15 BY MR. DEARING:</p> <p>16 Q. Okay. Do you think the authors with</p> <p>17 Dr. O'Brien -- do you think Dr. O'Brien and her</p> <p>18 co-authors are able to fully evaluate and interpret</p> <p>19 the data gathered from the sister study?</p> <p>20 MR. HEGARTY: Objection to form. Calls</p> <p>21 for speculation.</p> <p>22 THE WITNESS: Well, they did.</p> <p>23 BY MR. DEARING:</p> <p>24 Q. Right. But you think they did it well?</p> <p>25 I mean, you trust their opinions about it? 'Cause</p>
<p style="text-align: right;">Page 195</p> <p>1 iliac. They can also both go to the common iliac,</p> <p>2 and they can both go to the periaortic.</p> <p>3 Q. Did you polarize those particles?</p> <p>4 A. Yes.</p> <p>5 Q. Were they birefringent?</p> <p>6 A. Yes, they were refringent.</p> <p>7 Q. Do you have an opinion about how they got</p> <p>8 there?</p> <p>9 A. I have opinions on how they can get</p> <p>10 there. So they can get there through abrasions of</p> <p>11 the skin of the perineum, vulva. They can be</p> <p>12 particles that -- that were put there in the pelvis</p> <p>13 for some reason.</p> <p>14 Q. Do you have an opinion about how these</p> <p>15 particular particles got there?</p> <p>16 A. I have no certainty as to how they got</p> <p>17 there, no.</p> <p>18 Q. On page 7 in the top paragraph where</p> <p>19 you're discussing Dr. Clarke-Pearson's</p> <p>20 opinions -- that's Clarke, C-L-A-R-K-E, hyphen</p> <p>21 P-E-A-R-S-O-N -- you reference the O'Brien 2020</p> <p>22 study. And as I recall, that's a study that relied</p> <p>23 on the sister study data; right?</p> <p>24 A. I believe so, yes.</p> <p>25 Q. The sister study being a study of women</p>	<p style="text-align: right;">Page 197</p> <p>1 you cite to them.</p> <p>2 A. Yes, I know one of those authors very</p> <p>3 well. He's a very responsible, careful person.</p> <p>4 Q. Which one do you know?</p> <p>5 A. Nico Winstonson.</p> <p>6 Q. Winstonson. Okay. In the next one you</p> <p>7 state, "When evaluating the prospective cohort</p> <p>8 studies, there is no association between talc use</p> <p>9 and the development of ovarian cancer." I've</p> <p>10 already asked you that question.</p> <p>11 In Ms. Rausa's case, those particles</p> <p>12 that you identified in macrophages were</p> <p>13 birefringent. Is it possible those are talc</p> <p>14 particles?</p> <p>15 A. Anything is possible. They could be talc</p> <p>16 particles, sure.</p> <p>17 Q. So when you say in the same paragraph, "I</p> <p>18 have not encountered talc foreign body reactions</p> <p>19 since surgeons stopped using talc and other</p> <p>20 powders," is that partly because you've never</p> <p>21 identified the particle itself that was associated</p> <p>22 with the reaction like the particle that was</p> <p>23 engulfed by a macrophage?</p> <p>24 A. Because I didn't what?</p> <p>25 Q. So you're saying --</p>

<p style="text-align: right;">Page 198</p> <p>1 MR. HEGARTY: Object to form.</p> <p>2 BY MR. DEARING:</p> <p>3 Q. You write, "Despite the common use of</p> <p>4 perineal talc, I have not encountered talc foreign</p> <p>5 body reactions since surgeons stopped using talc</p> <p>6 and other powders as lubricants for surgical</p> <p>7 gloves."</p> <p>8 But you testified in Ms. Rausa's case</p> <p>9 you did identify foreign particles that were</p> <p>10 birefringent in macrophages. But you say --</p> <p>11 A. In the lymph node.</p> <p>12 Q. In the lymph node.</p> <p>13 A. So I was referring, but with that</p> <p>14 sentence, as to my examination of tens of thousands</p> <p>15 of ovaries.</p> <p>16 Q. So in the tens of thousands of ovaries</p> <p>17 you've looked at, you've never seen a foreign</p> <p>18 particle sequestered by a macrophage, or you have,</p> <p>19 or a granuloma?</p> <p>20 A. Not something that could be talc. I've</p> <p>21 seen it to -- I've seen it to suture material.</p> <p>22 I've seen it to teratomatous components. But not</p> <p>23 something that would be consistent with talc.</p> <p>24 Q. Well, using a routine light microscope,</p> <p>25 the only thing you could say about the particle</p>	<p style="text-align: right;">Page 200</p> <p>1 saying you've never encountered a foreign particle</p> <p>2 in gyn tissue associated with an inflammatory</p> <p>3 response to it or a foreign body reaction?</p> <p>4 MR. HEGARTY: Objection to form.</p> <p>5 THE WITNESS: Correct.</p> <p>6 BY MR. DEARING:</p> <p>7 Q. Okay. Well, at least not since surgeons</p> <p>8 stopped dusting their gloves with talc?</p> <p>9 A. Correct.</p> <p>10 Q. You state also in that same paragraph a</p> <p>11 little further down, "Cell culture studies of</p> <p>12 potential cancer-causing inflammatory mediators</p> <p>13 must be validated in animal models and humans</p> <p>14 before any causal assumptions can be made."</p> <p>15 Animal models maybe, but you can't do</p> <p>16 a cell culture in a human where the potential</p> <p>17 outcome may be cancer; right? That's a nonstarter.</p> <p>18 A. There's accidental exposures too.</p> <p>19 We've -- we have done many studies in humans that</p> <p>20 have been exposed to potentially carcinogenic</p> <p>21 materials that are acquired by the human by</p> <p>22 accidental exposure. So you don't need to do a</p> <p>23 prospective study exposing the human, but you can</p> <p>24 certainly evaluate humans who have been exposed.</p> <p>25 Q. How could a woman have been accidentally</p>
<p style="text-align: right;">Page 199</p> <p>1 that was consistent with talc is that it might be</p> <p>2 birefringent if you polarized it; right?</p> <p>3 A. Correct, but -- well, that it</p> <p>4 could -- yeah. And then it had the right</p> <p>5 appearance, right?</p> <p>6 Q. So are you saying that you've never seen</p> <p>7 a foreign particle in the gynecologic tissue that</p> <p>8 was associated with a foreign body reaction?</p> <p>9 A. No, I just said that I have, but</p> <p>10 not -- but not refringent particles that would be</p> <p>11 consistent with talc.</p> <p>12 Q. Okay. But you would agree that you</p> <p>13 haven't polarized most of the slides you study;</p> <p>14 right?</p> <p>15 A. I don't need to. Because if there's no</p> <p>16 reaction to it, then you wouldn't --</p> <p>17 Q. Okay, we're -- I think we're talking in</p> <p>18 circles. I'm trying to clarify what your testimony</p> <p>19 is.</p> <p>20 Are you saying that in your vast</p> <p>21 experience you have not observed a particle except</p> <p>22 for -- and I don't consider suture material a</p> <p>23 particle. I'm just talking about a -- for purposes</p> <p>24 of this question, it's a foreign particle, not</p> <p>25 suture material, not anything endogenous. Are you</p>	<p style="text-align: right;">Page 201</p> <p>1 exposed to talc such that it would be implanted in</p> <p>2 her -- on her ovary or fallopian tube?</p> <p>3 A. I don't think --</p> <p>4 MR. HEGARTY: Objection to form.</p> <p>5 THE WITNESS: -- she can.</p> <p>6 BY MR. DEARING:</p> <p>7 Q. Right. So that's a human experiment that</p> <p>8 can never happen?</p> <p>9 A. Correct.</p> <p>10 Q. All right. So by that logic you're</p> <p>11 saying these cell culture studies can never be</p> <p>12 validated by human study?</p> <p>13 A. Not after the exposure of the ovaries to</p> <p>14 dusted gloves.</p> <p>15 Q. Okay. We requested -- as we've</p> <p>16 discussed -- in our notice of deposition that you</p> <p>17 provide invoices for this case. And we didn't</p> <p>18 receive any. Does that mean that no invoices have</p> <p>19 been created in this case?</p> <p>20 A. That's correct.</p> <p>21 Q. Do you know whether you retained a copy</p> <p>22 of the chain of custody forms that traveled with</p> <p>23 these slides? And I'll tell you with the MDL</p> <p>24 cases, there are chain of custody forms with all of</p> <p>25 them.</p>

<p style="text-align: right;">Page 202</p> <p>1 A. I don't recall, but likely yes. And I</p> <p>2 did not bring them with me.</p> <p>3 Q. Did you -- I'm sorry. Strike that.</p> <p>4 Did the lawyers for Johnson & Johnson</p> <p>5 send you any of Ms. Rausa's tissue blocks?</p> <p>6 A. They did not.</p> <p>7 Q. Did you request any of her tissue blocks?</p> <p>8 A. I did not.</p> <p>9 Q. Do you have any opinions as to what</p> <p>10 caused Ms. Rausa's ovarian cancer?</p> <p>11 A. Yes.</p> <p>12 Q. What is that opinion?</p> <p>13 A. I believe that Ms. Rausa's cancer is a</p> <p>14 sporadic ovarian -- high-grade serous ovarian</p> <p>15 cancer.</p> <p>16 Q. By sporadic, do you mean it was caused by</p> <p>17 irregular replication of cells?</p> <p>18 A. Mistake in the replication of cells.</p> <p>19 Q. And is it your opinion that she has no</p> <p>20 risk factors for ovarian cancer?</p> <p>21 A. Yes.</p> <p>22 Q. Okay. Next case is Converse.</p> <p>23 THE WITNESS: I'm going to take three</p> <p>24 minutes.</p> <p>25 MR. DEARING: All right.</p>	<p style="text-align: right;">Page 204</p> <p>1 treating physicians, including her pathologist?</p> <p>2 A. No, not that I recollect.</p> <p>3 Q. Is the -- I'm sorry. Strike that. Is</p> <p>4 Ms. Converse's usage of Johnson's baby powder</p> <p>5 relevant to your opinions in this case?</p> <p>6 A. It is not.</p> <p>7 Q. Did you identify any risk factors for</p> <p>8 Ms. Converse that may have contributed to her</p> <p>9 ovarian cancer? Just specifically you say her</p> <p>10 family history includes breast cancer diagnosed in</p> <p>11 her mother at age 46, as well as in a paternal aunt</p> <p>12 in her 70s, and a paternal cousin in her 40s. And</p> <p>13 then pancreatic cancer in her maternal grandmother</p> <p>14 at age 87, non-Hodgkin's lymphoma diagnosed in a</p> <p>15 maternal uncle in his 70s, and lung cancer in her</p> <p>16 father in his 80s.</p> <p>17 A. That's --</p> <p>18 Q. Do any of those family histories place</p> <p>19 Ms. Converse at an increased risk of getting clear</p> <p>20 cell carcinoma of the ovary?</p> <p>21 A. Well, her -- her -- her two factors that</p> <p>22 would increase the risk of ovarian cancer in her</p> <p>23 case would be the fact that she's an Ashkenazi Jew,</p> <p>24 and that her mother had breast cancer at age 46.</p> <p>25 Q. Is her mother's breast cancer a risk</p>
<p style="text-align: right;">Page 203</p> <p>1 (Break taken.)</p> <p>2 BY MR. DEARING:</p> <p>3 Q. Doctor, if you would now look at your</p> <p>4 Converse report.</p> <p>5 A. Yes.</p> <p>6 Q. Incidentally -- well, does your report</p> <p>7 contain all of your opinions you intend to offer in</p> <p>8 this case?</p> <p>9 A. Yes.</p> <p>10 Q. Are there any materials not listed on</p> <p>11 your reference list that you're relying on for your</p> <p>12 opinions in this matter?</p> <p>13 A. No.</p> <p>14 Q. And what exactly did Johnson & Johnson's</p> <p>15 lawyers ask you to do in this case?</p> <p>16 A. I was asked to evaluate the pathology of</p> <p>17 Ms. Converse's ovarian tumor, classify it, stage</p> <p>18 it, and determine if any foreign material may have</p> <p>19 contributed to the genesis of her neoplasm.</p> <p>20 Q. In your opinion, did Ms. Converse's --</p> <p>21 was Ms. Converse's cancer properly diagnosed by her</p> <p>22 treating pathologist?</p> <p>23 A. Yes, it was.</p> <p>24 Q. Do you disagree with any of the</p> <p>25 statements or opinions of any of Ms. Converse's</p>	<p style="text-align: right;">Page 205</p> <p>1 factor specifically for clear cell carcinoma or is</p> <p>2 it a risk factor for just ovarian cancers in</p> <p>3 general?</p> <p>4 A. It's a risk factor for ovarian cancer in</p> <p>5 general.</p> <p>6 Q. There are no studies that suggest that a</p> <p>7 patient's mother's breast cancer increases her risk</p> <p>8 of clear cell carcinoma, is there?</p> <p>9 A. Yeah, I don't -- I don't remember whether</p> <p>10 they exclude clear cell from any cancer. So when</p> <p>11 lumped into a pool, I'm not sure that you can say</p> <p>12 that it -- it doesn't have some influence. But the</p> <p>13 percentage of clear cell carcinomas -- the</p> <p>14 percentage of ovarian cancer that is -- are</p> <p>15 composed of clear cell carcinomas is small.</p> <p>16 Q. Right.</p> <p>17 A. So the data obviously is more predictive</p> <p>18 of serous carcinomas.</p> <p>19 Q. Do you know why Ashkenazi Jewish ancestry</p> <p>20 increases a women's risk of ovarian cancer?</p> <p>21 A. They have more inherited -- inherited</p> <p>22 mutations.</p> <p>23 Q. And of course you're aware that</p> <p>24 Ms. Converse got a full panel genetic testing done;</p> <p>25 right?</p>

<p style="text-align: right;">Page 206</p> <p>1 A. Correct.</p> <p>2 Q. And would you agree that her panel</p> <p>3 testing showed that -- I'm sorry. Strike that.</p> <p>4 Would you agree that her genetic</p> <p>5 testing failed to identify any detectable</p> <p>6 pathogenic mutations?</p> <p>7 A. I agree.</p> <p>8 Q. And that her -- do you agree that her</p> <p>9 genetic testing did not show any germline mutations</p> <p>10 or any other findings that are known to increase a</p> <p>11 women's risk for ovarian cancer?</p> <p>12 A. I agree.</p> <p>13 Q. The germline mutations that increase a</p> <p>14 woman of Ashkenazi descent's risk of ovarian cancer</p> <p>15 are included in these panel testings; right?</p> <p>16 A. I believe so, yes.</p> <p>17 Q. Right?</p> <p>18 A. Of the known ones.</p> <p>19 Q. And she tested negative for all of them;</p> <p>20 correct?</p> <p>21 A. Correct.</p> <p>22 Q. On page 5, under the photographs in your</p> <p>23 report, you state that areas of Ms. Converse's</p> <p>24 tumor had definitive evidence of non-neoplastic</p> <p>25 endometriotic tumor within the cystic.</p>	<p style="text-align: right;">Page 208</p> <p>1 Q. Okay. Can I get you to use my copy of</p> <p>2 your report that's marked as Exhibit Number 9 --</p> <p>3 A. Yes, you may.</p> <p>4 Q. And can you -- I know you've circled it</p> <p>5 with the computer. On figure two on page 6 you</p> <p>6 state, "Low magnification view of the section of</p> <p>7 Ms. Converse's clear cell carcinoma. The circled</p> <p>8 area contains a fossa of endometriosis."</p> <p>9 Can you be more specific in that</p> <p>10 circle and identify where the endometriosis is?</p> <p>11 A. Yes, I can.</p> <p>12 Q. I'm just going to watch.</p> <p>13 A. I will point with arrows. The inside of</p> <p>14 this cystic space --</p> <p>15 Q. Okay.</p> <p>16 A. -- is partly depicted in the high</p> <p>17 magnification below.</p> <p>18 Q. Okay. And which part of that circle on</p> <p>19 top is the bottom photograph? 'Cause I couldn't</p> <p>20 tell. Nothing looked oriented like that to me.</p> <p>21 A. I believe it's near this arrow.</p> <p>22 Q. You're pointing to the upper left-hand</p> <p>23 corner --</p> <p>24 A. Yes.</p> <p>25 Q. -- arrow? You say you believe. Are you</p>
<p style="text-align: right;">Page 207</p> <p>1 MR. DEARING: And at this point I need to</p> <p>2 take a pause. Let's go off the record for a</p> <p>3 second.</p> <p>4 (Break taken.)</p> <p>5 MR. DEARING: Back on the record. I'm</p> <p>6 going to mark as Exhibit 6 your Brandi Carl report.</p> <p>7 (Exhibit 6 marked for identification.)</p> <p>8 MR. DEARING: And Exhibit 7 is going to</p> <p>9 be the Balderrama report. Number 8 will be the</p> <p>10 Rausa report. Except that I'm missing part of it.</p> <p>11 I'm going to mark this as 8, but this is just the</p> <p>12 appendixes. The substance of his report I'll have</p> <p>13 to come back to it. Anyway, 8 will be the Rausa</p> <p>14 report.</p> <p>15 9 will be Converse. 10 will be</p> <p>16 Gallardo. 11 will be Judkins. 12 will be</p> <p>17 Bondurant. Okay.</p> <p>18 BY MR. DEARING:</p> <p>19 Q. And going back to Converse now, on page 5</p> <p>20 of your report, you state that, "Areas of</p> <p>21 Ms. Converse's tumor had definitive evidence of</p> <p>22 non-neoplastic endometriotic tissue within the</p> <p>23 cystic tumor. Is that non-neoplastic endometriotic</p> <p>24 tumor pictured in one of the pictures on page 5?</p> <p>25 A. No, it's pictured on page 6, 7, 8 and 9.</p>	<p style="text-align: right;">Page 209</p> <p>1 certain that that's part of it?</p> <p>2 A. Well --</p> <p>3 Q. 'Cause it doesn't look like that to me,</p> <p>4 but --</p> <p>5 A. It's within this -- it's within this</p> <p>6 cystic space for sure.</p> <p>7 Q. Then looking -- looking at the bottom</p> <p>8 photo, can you identify the part of it that is an</p> <p>9 endometrioid epithelium?</p> <p>10 A. Yes, I can.</p> <p>11 Q. Could you circle what that looks like?</p> <p>12 A. Okay. The endometriosis epithelium. You</p> <p>13 want me to circle to it?</p> <p>14 Q. Or put an arrow.</p> <p>15 A. It's this part over here. The entire</p> <p>16 lining of it. It's a little interrupted there, but</p> <p>17 it continues there.</p> <p>18 Q. Okay. Actually, let's do this. Let me</p> <p>19 give you my highlighter. That might be easier now</p> <p>20 that you circled it.</p> <p>21 A. Too late.</p> <p>22 Q. Okay.</p> <p>23 A. It's actually more accurate with a pen.</p> <p>24 Q. Okay. And then can you identify the</p> <p>25 endometrioid stroma?</p>

<p style="text-align: right;">Page 210</p> <p>1 A. Yes. It's most prominent over here, but 2 it's present throughout. 3 Q. For the record, you're using arrows to -- 4 A. Oh, yes. 5 Q. -- identify the endometrioid stroma. 6 Okay. You can leave it there. I can see it. 7 A. This is the best area. 8 Q. You also reference on page 5, "These 9 findings indicate that the cyst in which 10 Ms. Converse developed clear cell carcinoma began 11 as an endometrioma, and that her cancer arose 12 within and from it." 13 Is that endometrioma tissue where the 14 cancer arose, is that what you were identifying? I 15 mean, have you circled that part of it or -- 16 A. Yes, part of it. This would be -- if you 17 looked at only this image, this cystic space here, 18 and this higher magnification appearance, you would 19 call that endometrioma, not clear cell carcinoma. 20 Q. Okay. 21 A. It has no feature of malignancy. It has 22 no clear cytoplasm. 23 Q. And so how do you know that the clear 24 cell carcinoma began as an endometrioma and that 25 her cancer arose from it?</p>	<p style="text-align: right;">Page 212</p> <p>1 A. Hemosiderin is one of the -- the 2 composition products of blood. 3 Q. So what is it about a hemosiderin that 4 would attract a macrophage? 5 A. Oh, certain types of -- of ferric ions 6 are viewed as foreign body. 7 Q. What's the size of those hemosiderin 8 molecules or particles? 9 A. Oh, they can be tiny, sub-one micron. 10 Seldom do they get -- would they even come close to 11 being a micron. 12 Q. It's a protein, hemosiderin? 13 A. Yes. 14 Q. The endometriosis -- sorry if I missed 15 this. The endometriotic tissue within the cystic 16 tumor, is that on the ovary? 17 A. Yes. 18 Q. So the endometriotic tissue that got 19 there, did it get there the same way that 20 endometriosis occurs -- 21 A. Yes. 22 Q. -- that we've been discussing? So why is 23 it that sometimes it forms a cyst and sometimes it 24 forms endometriosis? 25 A. We don't know.</p>
<p style="text-align: right;">Page 211</p> <p>1 A. Well, if you -- if you look at image 2 figure number six -- I'm sorry, seven and 3 eight -- we have the transition between the 4 endometrioma and the clear cell carcinoma. 5 Q. Okay. Can you circle where that -- or 6 highlight, or however you want to do it. 7 A. So the highlighted area is endometrioma, 8 whereas from here on you start seeing more 9 proliferative-type epithelium, meaning it's 10 stratifying, becoming -- there are more cells per 11 area. And then a few cells later, the cells start 12 acquiring cleared cytoplasm. And then a few 13 microns away you start getting malignant change of 14 the epithelial cells as the nucleus and cytoplasm 15 are cleared -- sorry -- the nucleus and large and 16 cytoplasm cleared. 17 Q. Okay. On page 7 you mention 18 hemosiderin-laden macrophages. Can you just 19 identify where those are in figure four? 20 A. Yes. It's much easier in the colored 21 photographs, but there, there, over here. 22 Q. Okay. How do you know that that's 23 hemosiderin? 24 A. By its morphological appearance. 25 Q. What is hemosiderin?</p>	<p style="text-align: right;">Page 213</p> <p>1 Q. Did Ms. Converse's treating pathologist 2 make any reference to endometriotic tissue being 3 associated with the cyst and her endometriosis 4 endometrioid -- I mean her clear cell carcinoma? 5 A. She does not. 6 Q. But you're looking at the same slides 7 that she looked at; right? 8 A. Yes. The important diagnosis is the 9 clear cell carcinoma. 10 Q. But like you said before, it is also 11 important to diagnose endometriosis or similar 12 co-morbidities if they exist; right? 13 A. In my opinion, it is important, but 14 clearly there's a clear cell carcinoma in that 15 cyst. You can -- most pathologists will mention, 16 you know, arising in the endometrioma. But some 17 pathologists may not think that that's important. 18 Q. Did Ms. Converse's use of Johnson's baby 19 powder impact your opinion at all in this case? 20 A. No. 21 Q. Did you make any new slides in this case? 22 A. I did not. 23 Q. Did the lawyers for Johnson & Johnson 24 send you the tissue blocks in this case? 25 A. They did not.</p>

<p style="text-align: right;">Page 214</p> <p>1 Q. Did you request the tissue blocks?</p> <p>2 A. I did not.</p> <p>3 Q. Do you intend to comment on any other</p> <p>4 slides or features that aren't articulated in your</p> <p>5 report and in those photomicrographs?</p> <p>6 A. I do not intend to do that.</p> <p>7 Q. Is the endometriotic cyst considered a</p> <p>8 type of endometriosis, or it's just sometimes the</p> <p>9 endometrial tissue forms a cyst and sometimes it</p> <p>10 forms an endometriosis?</p> <p>11 A. There were several publications in the</p> <p>12 early 2000s -- actually, it was probably in the</p> <p>13 1990s -- that suggested that endometriomas were</p> <p>14 clonal versus endometriosis not being clonal. But</p> <p>15 there were very few, and they were never followed</p> <p>16 up or confirmed. I have not done any personal</p> <p>17 research on it. So...</p> <p>18 Q. To your knowledge, did Ms. Converse have</p> <p>19 any risk factors for endo?</p> <p>20 A. The only risk factor for endometriosis is</p> <p>21 transverse vaginal septum or imperforate hymen. To</p> <p>22 the best of my knowledge, I don't think she had</p> <p>23 either.</p> <p>24 Q. Okay. Moving on to Judkins. I'm sorry,</p> <p>25 let me back up. One more question on Converse.</p>	<p style="text-align: right;">Page 216</p> <p>1 A. Can you repeat that? I'm sorry, I was a</p> <p>2 little distracted.</p> <p>3 MR. HEGARTY: Object to the form.</p> <p>4 BY MR. DEARING:</p> <p>5 Q. Sure. You start every report by</p> <p>6 saying -- by identifying the scope of the report.</p> <p>7 And you state that you were asked to provide your</p> <p>8 expert opinion on, number one, diagnosis; number</p> <p>9 two, whether there is histologic evidence</p> <p>10 supporting internal exposure to talc-based body</p> <p>11 powder; and, three, the hypothesized link between</p> <p>12 perineal use of talc and the development of ovarian</p> <p>13 cancer in general, and specifically as it pertains</p> <p>14 to Ms. Judkins' ovarian cancer case.</p> <p>15 The answer to number three you know</p> <p>16 before you even write the first word of your</p> <p>17 report; right? I mean, it's always the same no</p> <p>18 matter what the slides show?</p> <p>19 MR. HEGARTY: Objection to form.</p> <p>20 THE WITNESS: That's because the slides</p> <p>21 always show an absence of tissue reaction to</p> <p>22 foreign particles in the ovaries or tubes.</p> <p>23 BY MR. DEARING:</p> <p>24 Q. And for that matter, the answer to number</p> <p>25 two is always the same as well, isn't it, that</p>
<p style="text-align: right;">Page 215</p> <p>1 Did you prepare any invoices --</p> <p>2 A. I did not.</p> <p>3 Q. -- in Converse?</p> <p>4 A. I have not.</p> <p>5 Q. Okay. Does your report contain all of</p> <p>6 your opinions you intend to offer in this case?</p> <p>7 A. Yes.</p> <p>8 Q. Are there any materials not listed on</p> <p>9 your reference list that you're relying on for your</p> <p>10 opinions in this matter?</p> <p>11 A. No.</p> <p>12 Q. And what did the Johnson & Johnson</p> <p>13 lawyers ask you to do in this case?</p> <p>14 A. They asked me to evaluate the pathology</p> <p>15 slides and determine a tumor, tumor type, tumor</p> <p>16 stage, and whether there was any foreign material</p> <p>17 that could have contributed to the genesis of the</p> <p>18 neoplasm.</p> <p>19 Q. Incidentally, the -- in your report you</p> <p>20 say the third thing they asked you to do was</p> <p>21 provide your expert opinion on the hypothesized</p> <p>22 link between the peritoneal use of talc and the</p> <p>23 development of ovarian cancer in general, and</p> <p>24 specifically in this case. Your answer to that is</p> <p>25 always no, right, in each of these reports?</p>	<p style="text-align: right;">Page 217</p> <p>1 whether there's histologic evidence supporting</p> <p>2 internal exposure to talc-based body powder. If</p> <p>3 your opinion is talc can't get to the ovaries and</p> <p>4 fallopian tube, your answer's always going to be</p> <p>5 the same; right? You don't even have to look at</p> <p>6 slides?</p> <p>7 A. Well, I'm perfectly willing to have my</p> <p>8 mind changed. To do that I must see evidence,</p> <p>9 though.</p> <p>10 Q. Does Ms. Judkins' use of Johnson's baby</p> <p>11 powder in any way influence your opinions in this</p> <p>12 case?</p> <p>13 A. It does not.</p> <p>14 Q. In your opinion, was Ms. Judkins' cancer</p> <p>15 properly diagnosed by her treating pathologist,</p> <p>16 that being high-grade serous carcinoma of the right</p> <p>17 ovary?</p> <p>18 A. Yes, it was correctly diagnosed.</p> <p>19 Q. And do you disagree with any of the</p> <p>20 statements or opinions of Ms. Judkins' treating</p> <p>21 physicians?</p> <p>22 A. Not that I can recall.</p> <p>23 Q. In her brief clinical history section you</p> <p>24 state that her family history is unremarkable</p> <p>25 except for a paternal great aunt with breast cancer</p>

<p style="text-align: right;">Page 218</p> <p>1 and a maternal uncle with kidney and bladder 2 cancer. Would you agree that both of those two 3 family cancers did not -- I'm sorry. Strike that. 4 Do you agree that neither of those 5 family cancers increased Ms. Judkins' risk of 6 ovarian cancer? 7 A. Agree. 8 Q. And she also had full panel genetic 9 testing; correct? 10 A. Yes. 11 Q. And do you agree that the genetic testing 12 did not reveal any germline mutations or other 13 findings known to increase a woman's risk of 14 ovarian cancer? 15 A. I agree. 16 Q. Do you agree that Ms. Judkins has no 17 recognized risk factors for high-grade serous 18 carcinoma of the ovary? 19 A. Other than age, no. 20 Q. The question was do you agree, and you 21 said other than age, no. 22 A. Oh, I'm sorry. You're right. 23 Q. I know what you're trying to say. 24 A. Let me set the record straight. 25 Q. Did you recognize any risk factors for</p>	<p style="text-align: right;">Page 220</p> <p>1 the sections, I can't tell whether there is direct 2 contact, direct growth, or whether it was 3 dissemination to the surface of the fallopian tube. 4 Q. Okay. You go on to state that in the 5 next sentence, the tumor exhibits areas of necrosis 6 and aggregates of the foamy histiocytes. Those 7 histiocytes, is that an inflammatory reaction to 8 the dead cancer cells, the necrosis you're 9 referring to? 10 A. Yes. 11 Q. And I should ask, the necrosis, is that 12 necrosis of the tumor or healthy tissue? 13 A. It is necrosis of the tumor. 14 Q. I don't recall, do you know whether she 15 had neoadjuvant chemotherapy? 16 A. I don't believe she did. 17 Q. Necrosis is something that occurs in 18 tumors. That's just a normal process. Sometimes 19 the cancer cells do just die at some point 20 whether -- if they're not vascularized properly or 21 something adequately? 22 A. There can be a number of reasons that 23 tumor cells undergo necrosis. One of them is what 24 you said, which is the theory of outgrew its blood 25 supply. The second reason could be torsion of the</p>
<p style="text-align: right;">Page 219</p> <p>1 high-grade serous ovarian cancer in Ms. Judkins' 2 medical records? 3 A. Only her age. 4 Q. I don't believe Mark would ever try to 5 twist that statement at trial, but it won't be Mark 6 at trial, so possibly. 7 You state in the first paragraph of 8 the examination of the pathology slide section the 9 slides revealed high-grade serous carcinoma arising 10 in the right ovary and involving the serosa of the 11 fallopian tube. Can you just describe what that 12 means? 13 A. Yes. As you look at it in your diagram, 14 the serosa of the fallopian tube is the outer layer 15 of the fallopian tube, or the outside of the 16 fallopian tube. 17 Q. Okay. When you say it involves that, are 18 there adhesions of the tumor? 19 A. There's a tumor growing on it. 20 Q. Okay. Is that detached from the tumor 21 growing on the ovary, or is the tumor so big it's 22 touching both? 23 A. It's hard to say from the sections. So 24 let's see if they describe it in the pathology 25 report. They did not describe it. So just from</p>	<p style="text-align: right;">Page 221</p> <p>1 ovary. 2 Q. Okay. 3 A. And ovarian tumors put the woman at 4 risk -- at higher risk of ovarian torsion. 5 Q. Okay. You can't tell by looking at 6 slides whether that torsion existed in this case, 7 can you? 8 A. I would not be able to, no. 9 Q. But these aggregates of foamy 10 histiocytes, that's an inflammatory reaction; 11 right? 12 A. It is a very specific type of 13 inflammatory reaction, yes. 14 Q. You go on to state that Ms. Judkins' 15 tumor was an HGSC, high-grade serous carcinoma, of 16 the usual type, and was not associated with 17 granulomatous inflammation or a foreign body 18 reaction. And I guess my question is, how do you 19 know that? 20 A. Morphologically it's very, very easy to 21 determine both granulomatous reactions -- 22 granulomatous inflammation, excuse me -- for 23 foreign body reactions. 24 Q. But if that tumor was formed by or 25 associated with an inflammatory foreign body</p>

<p style="text-align: right;">Page 222</p> <p>1 reaction, wouldn't the evidence of that be subsumed</p> <p>2 in the tumor?</p> <p>3 A. Subsumed. You --</p> <p>4 Q. Yeah. So the tumor is --</p> <p>5 MR. HEGARTY: Objection. Go ahead.</p> <p>6 THE WITNESS: Can you define subsumed?</p> <p>7 BY MR. DEARING:</p> <p>8 Q. So the tumor is new growth; right?</p> <p>9 A. Yes.</p> <p>10 Q. So if that new growth was instigated by</p> <p>11 an inflammatory reaction, say a foreign body</p> <p>12 reaction, it would grow up around it and evidence</p> <p>13 of the carcinogenesis would be obliterated; right?</p> <p>14 MR. HEGARTY: Objection to form.</p> <p>15 THE WITNESS: No, I don't think the tumor</p> <p>16 would destroy a foreign body reaction.</p> <p>17 BY MR. DEARING:</p> <p>18 Q. So in your opinion, if that tumor was</p> <p>19 initiated by a foreign body reaction, you would be</p> <p>20 able to locate the foreign body? I mean, you think</p> <p>21 it's that obvious?</p> <p>22 A. Sure, yes.</p> <p>23 Q. Okay. You also state that although</p> <p>24 birefringent particles can be observed in</p> <p>25 Ms. Judkins' histology slides under polarized</p>	<p style="text-align: right;">Page 224</p> <p>1 produce any. That because none have been created</p> <p>2 yet?</p> <p>3 A. You are correct.</p> <p>4 Q. Do you know whether you retained a copy</p> <p>5 of the chain of custody forms that traveled with</p> <p>6 the slides that you reviewed for this case?</p> <p>7 A. Very likely, but I neglected to bring it</p> <p>8 to this deposition.</p> <p>9 Q. Okay. We can move on to Gallardo.</p> <p>10 Anybody need to take a break?</p> <p>11 A. I'm good to go.</p> <p>12 Q. To begin with, does your report contain</p> <p>13 all of your opinions you intend to offer in this</p> <p>14 case?</p> <p>15 A. Yes, it does.</p> <p>16 Q. Are there any materials not listed on</p> <p>17 your reference list that you're relying on for your</p> <p>18 opinions in this matter?</p> <p>19 A. There are not.</p> <p>20 Q. And what did Johnson & Johnson's lawyers</p> <p>21 ask you to do in this case?</p> <p>22 A. They asked me to evaluate the pathology</p> <p>23 of Ms. Gallardo and to determine the type of cancer</p> <p>24 that she had, and the stage, as well as to assess</p> <p>25 whether there was any external particles that may</p>
<p style="text-align: right;">Page 223</p> <p>1 light, these particles are not demonstrably within</p> <p>2 macrophages or associated with a foreign body</p> <p>3 reaction. When you say not demonstrably within</p> <p>4 macrophages, does that mean you just -- you don't</p> <p>5 see them within the macrophages?</p> <p>6 A. Correct.</p> <p>7 Q. Do you have an opinion as to what caused</p> <p>8 Ms. Judkins' high-grade serous carcinoma of the</p> <p>9 right ovary?</p> <p>10 A. Yes, I believe it was a sporadic cancer.</p> <p>11 Q. Did you make any new slides in</p> <p>12 Ms. Judkins' case.</p> <p>13 A. I did not.</p> <p>14 Q. Did Johnson & Johnson's lawyers send you</p> <p>15 Ms. Judkins' tissue blocks?</p> <p>16 A. They did not.</p> <p>17 Q. Did you request to see the blocks?</p> <p>18 A. I did not.</p> <p>19 Q. Do you intend to comment on any other</p> <p>20 slides or other features of any other slides in</p> <p>21 this case?</p> <p>22 A. Only those that are present in my report.</p> <p>23 Q. Prior to the deposition we asked that you</p> <p>24 produce invoices in this case for your work done</p> <p>25 for the Johnson & Johnson lawyers, and you did not</p>	<p style="text-align: right;">Page 225</p> <p>1 have contributed to the genesis of her neoplasm.</p> <p>2 Q. Do you believe that Ms. Gallardo's cancer</p> <p>3 was properly diagnosed by her treating physicians?</p> <p>4 A. Yes.</p> <p>5 Q. Do you disagree with any of the</p> <p>6 statements or opinions of any of Ms. Gallardo's</p> <p>7 treating physicians?</p> <p>8 A. Not to the best of my recollection, no.</p> <p>9 Q. Does the degree of usage of Johnson's</p> <p>10 baby powder by Ms. Gallardo in any way impact your</p> <p>11 opinions in this case?</p> <p>12 A. It does not.</p> <p>13 Q. Is it your opinion that Ms. Gallardo had</p> <p>14 stage two endometrioid ovarian carcinoma?</p> <p>15 A. Yes.</p> <p>16 Q. With regard to her family history, you</p> <p>17 state that her family history includes multiple</p> <p>18 myeloma diagnosed in her father, leukemia in a</p> <p>19 maternal half-brother and a maternal aunt, and</p> <p>20 kidney cancer in a maternal uncle. Do you agree</p> <p>21 that none of those family cancers contributed to</p> <p>22 cause Ms. Gallardo's stage two endometrioid ovarian</p> <p>23 cancer?</p> <p>24 A. I agree.</p> <p>25 Q. You're also aware that Ms. Gallardo</p>

<p style="text-align: right;">Page 226</p> <p>1 underwent a full panel genetic testing?</p> <p>2 A. Yes.</p> <p>3 Q. And do you agree that that testing did</p> <p>4 not identify any pathogenic mutations?</p> <p>5 A. I agree.</p> <p>6 MR. HEGARTY: Objection to form.</p> <p>7 BY MR. DEARING:</p> <p>8 Q. And do you agree that that panel testing</p> <p>9 failed to show any genetic mutations found that are</p> <p>10 known to increase a woman's risk of ovarian cancer?</p> <p>11 A. I agree.</p> <p>12 Q. Let me ask that in a different way. Do</p> <p>13 you agree that her panel testing showed that there</p> <p>14 are no genetic mutations found that are known to</p> <p>15 increase a woman's risk of ovarian cancer?</p> <p>16 A. I agree.</p> <p>17 Q. And I should have mentioned this, but her</p> <p>18 endometrioid adenocarcinoma was bilateral, in other</p> <p>19 words, involved both ovaries; correct?</p> <p>20 A. Yes.</p> <p>21 Q. You state on page 5 at the top that as</p> <p>22 with many endometrioid carcinomas, Ms. Gallardo's</p> <p>23 endometrioid adenocarcinoma occurred in the</p> <p>24 background of endometriosis best appreciated in</p> <p>25 sections of her right ovary. But there are no</p>	<p style="text-align: right;">Page 228</p> <p>1 Q. So I'm marking plaintiff's Exhibit 13,</p> <p>2 which is the Gallardo pathology report. I think</p> <p>3 we're looking at the same report. I don't have any</p> <p>4 reason to think we're not, but I didn't see any</p> <p>5 mention of endometriosis?</p> <p>6 A. I don't see it either. There are errors</p> <p>7 in this report. I'm pretty sure it's in this one</p> <p>8 as well. Oh. Oh, this is -- this is not nice. So</p> <p>9 in this copy that I have, this format, there is a</p> <p>10 microscopic description that contradicts the</p> <p>11 diagnosis, but it is gone from this report.</p> <p>12 Q. Well, that's tricky.</p> <p>13 A. Yeah, isn't it? That --</p> <p>14 Q. Let me see if I have another copy of that</p> <p>15 report.</p> <p>16 A. Yeah, I don't know how this -- how this</p> <p>17 was printed, but it was -- it's clearly a</p> <p>18 different -- is it a different format. It's</p> <p>19 definitely formatted differently. And the</p> <p>20 microscopic description differs between the two.</p> <p>21 Q. Well, that's unfortunate.</p> <p>22 A. They probably noticed it and amended the</p> <p>23 report, but they should have mentioned that.</p> <p>24 Q. Let me just see if I have another copy.</p> <p>25 A. While you do that, I'm going to go to the</p>
<p style="text-align: right;">Page 227</p> <p>1 photographs in this report. Did you photograph</p> <p>2 that background of endometriosis?</p> <p>3 A. I did not.</p> <p>4 Q. Is that something you actually observed</p> <p>5 in her slides or something you're speculating</p> <p>6 about?</p> <p>7 A. No, I -- I observed it.</p> <p>8 Q. Any reason why you didn't photograph it</p> <p>9 like you did in the other cases?</p> <p>10 A. I guess I didn't feel I needed it in this</p> <p>11 instance. It wasn't -- it was not arising directly</p> <p>12 from the focus of endometriosis. There was just</p> <p>13 the focus of endometriosis was present.</p> <p>14 Q. Well, do you think that her endometriosis</p> <p>15 contributed to cause her endometrioid</p> <p>16 adenocarcinoma?</p> <p>17 A. Yes.</p> <p>18 Q. And do you agree that Ms. Gallardo's</p> <p>19 pathologist didn't make mention of this tumor</p> <p>20 occurring in the background of endometriosis?</p> <p>21 A. (No answer given.)</p> <p>22 Q. I'm going to go ahead and introduce</p> <p>23 Exhibit 13, which is Ms. Gallardo's surgical</p> <p>24 pathology report.</p> <p>25 (Exhibit 13 marked for identification.)</p>	<p style="text-align: right;">Page 229</p> <p>1 bathroom. I apologize.</p> <p>2 (Break taken.)</p> <p>3 MR. DEARING: For the record, I'm marking</p> <p>4 as plaintiff's Exhibit 14 a different copy of the</p> <p>5 pathology report that Mr. Hegerty was kind enough</p> <p>6 to share with me. And these two reports are</p> <p>7 different. There's a different entry in one</p> <p>8 section of it.</p> <p>9 BY MR. DEARING:</p> <p>10 Q. So Doctor, let me just get you to</p> <p>11 explain, what is the difference in these two</p> <p>12 reports? And then you can tell me what the</p> <p>13 significance is.</p> <p>14 A. The difference in the two reports is that</p> <p>15 the microscopic description in the second copy, the</p> <p>16 one that you marked, contains a comment saying</p> <p>17 sections show high-grade serous carcinoma involving</p> <p>18 both ovaries and present on the surface of one of</p> <p>19 the ovaries. The right fallopian tube shows serous</p> <p>20 tubal intraepithelial carcinoma with invasion.</p> <p>21 This could be considered as a precursor lesion in</p> <p>22 this neoplasm.</p> <p>23 The report that you handed me says,</p> <p>24 "Microscopic description and comment. Microscopic</p> <p>25 examination substantiates the above diagnosis." I</p>

<p style="text-align: right;">Page 230</p> <p>1 notice that the -- the report -- the person 2 responsible for the report, his name is Horacio 3 Maluf. The comment -- microscopic description and 4 comment -- was written by Reza Alaghehbandan. 5 Sorry. 6 Q. Could this just be a mistake? 7 A. You want me to give you my best 8 hypothesis of what happened? 9 Q. I would. 10 A. Yes. I believe Reza is a resident who 11 wrote the comment. And before the -- Dr. Maluf 12 signed off the report, and Dr. Maluf forgot to take 13 it out before signing it out. 14 Q. Is it possible she's talking about a 15 different case entirely? Because she's calling it 16 high-grade serous carcinoma. 17 A. Yeah. Well, the Reza could be a 18 man-person. 19 Q. Oh, true. Okay. The person. 20 A. What's the date of execution of this 21 report? 22 MR. HEGARTY: Now you're looking at 23 Exhibit 13; correct? 24 BY MR. DEARING: 25 Q. Well, so this one -- yeah, so this one is</p>	<p style="text-align: right;">Page 232</p> <p>1 Q. Because you didn't think it was 2 necessary? 3 A. Correct. 4 Q. Don't you think it would be easier for us 5 to evaluate your opinion if you took a picture of 6 the endometriosis that you -- that this tumor is 7 arising from? 8 A. It might be useful for another 9 pathologist to confirm that. 10 Q. Right. Not me. 11 A. But that other pathologist should be 12 perfectly capable of looking at a slide and finding 13 it. 14 Q. Well, can you at least identify which 15 slide it is you made that observation in? 16 A. Best appreciated in sections of her right 17 ovary. 18 Q. There's probably more than one slide of 19 the right ovary; right? 20 A. So it would be B18. 21 Q. Slide B18 shows the background of 22 endometriosis? 23 A. Correct. 24 Q. And what does that mean that there's a 25 background of endometriosis, just that there's an</p>
<p style="text-align: right;">Page 231</p> <p>1 reported five days -- 2 A. Later. 3 Q. The one without the comment is reported 4 five days -- 5 A. Later. 6 Q. -- later than the one with the comment. 7 So it was taken out. 8 A. Yeah, it was taken out. 9 Q. So there was probably an error. 10 A. Correct. It is an endometrioid 11 carcinoma. You asked me if I disagreed with 12 anything in the report, and I just noticed that, 13 and I go ipes. 14 Q. To be clear, you observed no serous 15 features in these tumors? 16 A. I observed no serous carcinomas. 17 Q. All right. That was interesting. 18 A. Sneaky. 19 Q. The question that led to all of that was 20 there's no evidence of endometriosis or no mention 21 of endometriosis in the pathology reports; correct? 22 A. Correct. 23 Q. And you observed it but didn't photograph 24 it? 25 A. Correct.</p>	<p style="text-align: right;">Page 233</p> <p>1 endometriosis present in the vicinity of the tumor? 2 A. In the genital tract, yes. And that 3 those associations between endometriosis and 4 endometrioid carcinomas and endometriosis and clear 5 cell carcinomas all use that -- that term in the 6 background of, meaning most of the time when a 7 tumor arises in an endometrioma, you can't see 8 endometrioma left in there anymore. It's overgrown 9 by tumor. 10 But in some instances it's -- like two 11 cases ago -- we can see normal endometrioma left. 12 But if there's endometriosis elsewhere in the 13 pelvis, the assumption is that the tumor arose in 14 one of those fossa. 15 Q. Well, you go on to identify a dozen or 16 more other organ sites in the last part of that 17 paragraph. I'm not going to read them all, but you 18 include the cervix, the uterus, the tubes. There 19 was no, no endometriosis in any of those organ 20 sites, was there? 21 A. No. 22 Q. So the only endometriosis you found was 23 in her right ovary; correct? 24 A. Correct. 25 Q. So her right ovary, in your opinion, had</p>

<p style="text-align: right;">Page 234</p> <p>1 evidence of endometriosis?</p> <p>2 A. Yes.</p> <p>3 Q. And it had an endometrioid adenocarcinoma</p> <p>4 as well. The left ovary did not -- did not have</p> <p>5 any evidence of endometriosis?</p> <p>6 A. Correct.</p> <p>7 Q. But the left ovary did have an</p> <p>8 endometrioid adenocarcinoma; correct?</p> <p>9 A. Correct.</p> <p>10 Q. So is it your opinion that if you find</p> <p>11 endometrioid adenocarcinoma, and you find</p> <p>12 endometriosis in her gynecologic tissue, the</p> <p>13 endometriosis must have caused the endometrioid</p> <p>14 carcinoma?</p> <p>15 A. The endometrioid carcinoma arose in a</p> <p>16 focus of endometriosis.</p> <p>17 Q. Okay. What does that mean? Does that</p> <p>18 mean that the endometriosis caused it, or</p> <p>19 contributed to cause it, or what?</p> <p>20 A. It arose from it. So you don't -- you</p> <p>21 don't have it normally endometriotic tissue in the</p> <p>22 pelvis or the ovary. It's not -- normal woman</p> <p>23 don't have that.</p> <p>24 Q. Okay.</p> <p>25 A. There are foci in the endometriosis, in</p>	<p style="text-align: right;">Page 236</p> <p>1 A. I don't believe that they do.</p> <p>2 Q. Okay. So --</p> <p>3 A. Either endometriosis or endometrioma.</p> <p>4 Q. Okay. So is it your opinion that any</p> <p>5 time an endometrioid carcinoma of the ovary is</p> <p>6 formed, it has to have derived from endometriotic</p> <p>7 tissue, whether it's endometriosis or an</p> <p>8 endometriotic cyst?</p> <p>9 A. That is my opinion.</p> <p>10 Q. A hundred percent, all the time?</p> <p>11 A. Yes.</p> <p>12 Q. Do you have any source for that opinion,</p> <p>13 or is that just based on your experience?</p> <p>14 A. There -- you mean a hundred percent of</p> <p>15 them being --</p> <p>16 Q. Yeah. I know there are studies that show</p> <p>17 an association between endometriosis and</p> <p>18 endometrioid carcinomas. I'm not aware of a source</p> <p>19 that says that all endometrioid carcinomas are</p> <p>20 formed from endometriotic tissue, whether it's --</p> <p>21 A. Yeah, I -- that is such an obvious</p> <p>22 deduction that I'm not sure anybody would have</p> <p>23 bothered to publish it. It's just because tumors</p> <p>24 arise from epithelium, whatever epithelium, right?</p> <p>25 It has to arise in the epithelium that gives it its</p>
<p style="text-align: right;">Page 235</p> <p>1 the pelvis or ovary, in women who have</p> <p>2 endometriosis. Sorry, let me repeat that. There</p> <p>3 are foci in the endometriotic tissue in women who</p> <p>4 have endometriosis. If the tumor that arises in</p> <p>5 the endometrioid, it had to arise from</p> <p>6 endometriotic tissue. So that's why there's</p> <p>7 that -- that association exists.</p> <p>8 Q. Well, the right area -- sorry. The right</p> <p>9 ovary and the left ovary are significantly</p> <p>10 anatomically apart. So my question is, how do you</p> <p>11 know that the endometrioid carcinoma of the left</p> <p>12 ovary arose out of endometriosis when they're not</p> <p>13 even near each other?</p> <p>14 MR. HEGARTY: Objection, form.</p> <p>15 BY MR. DEARING:</p> <p>16 Q. In other words, there's no evidence of</p> <p>17 endometriosis in the left ovary.</p> <p>18 A. Correct. But -- but that ovary was</p> <p>19 almost entirely replaced.</p> <p>20 Q. So you're saying it may have been there</p> <p>21 at some point and we can't see it?</p> <p>22 A. Correct.</p> <p>23 Q. Okay. Can you estimate what percentage</p> <p>24 of endometrioid carcinomas occur unrelated to</p> <p>25 endometriosis?</p>	<p style="text-align: right;">Page 237</p> <p>1 histogenesis. So serous carcinomas arise from the</p> <p>2 serous cells in the fallopian tube, whether it's in</p> <p>3 the fallopian tube itself or whether the serous</p> <p>4 cells get into the ovary. Endometrioid tumors have</p> <p>5 to be -- have to arise in endometriotic tissue.</p> <p>6 Q. Okay. So the term endometrioid isn't</p> <p>7 just describing the morphology or what the cells</p> <p>8 look like, it's actually describing the origin</p> <p>9 cells?</p> <p>10 A. Yes.</p> <p>11 Q. Okay. On page 8 of your report where you</p> <p>12 are discussing Dr. Godleski's findings --</p> <p>13 A. Yes.</p> <p>14 Q. -- at the top you say, "The only foreign</p> <p>15 particles photographed by Dr. Godleski that cannot</p> <p>16 be dismissed as processing artifact are those</p> <p>17 within macrophages of the right iliac lymph node,"</p> <p>18 which is the same location we talked about earlier;</p> <p>19 right?</p> <p>20 A. Yes.</p> <p>21 Q. And you actually observed those particles</p> <p>22 yourself in macrophages in the slides?</p> <p>23 A. Yes.</p> <p>24 Q. And the right iliac lymph node drains</p> <p>25 from the pelvis; right?</p>

<p style="text-align: right;">Page 238</p> <p>1 A. Or external genitalia and upper thigh as</p> <p>2 well.</p> <p>3 Q. Can you describe how -- Well, strike</p> <p>4 that.</p> <p>5 You go on to say that none of the</p> <p>6 other birefringent material in figure two is</p> <p>7 present within the cytoplasm of macrophages or any</p> <p>8 other cell type. And none of this material is</p> <p>9 associated with a foreign body reaction which is</p> <p>10 consistent with simple postsurgical contaminant</p> <p>11 introduced in the specimens when the tissues were</p> <p>12 surgically removed from Ms. Gallardo and then</p> <p>13 handled, grossed, and processed for histology</p> <p>14 review.</p> <p>15 Further, the foreign particles shown</p> <p>16 in the bottom right panel of figure two are not</p> <p>17 associated with chronic inflammation as claimed by</p> <p>18 Dr. Godleski.</p> <p>19 In your opinion, what is shown in</p> <p>20 figure two that you're describing right there?</p> <p>21 A. An aggregate of cells that I'm not sure</p> <p>22 what they are from the photograph.</p> <p>23 Q. Could they be macrophages?</p> <p>24 A. They don't look like macrophages, no.</p> <p>25 They look like either epithelial cells or</p>	<p style="text-align: right;">Page 240</p> <p>1 a macrophage or a lymphocyte.</p> <p>2 Q. But what determines whether the response</p> <p>3 is a PMN or whether it's a macrophage?</p> <p>4 A. PMNs are -- have a nonspecific response</p> <p>5 to -- usually to bacteria, but they could also be</p> <p>6 present after tissue injury, whereas macrophages</p> <p>7 are much more specific molecules that are attracted</p> <p>8 by -- by signals from the -- from the surrounding</p> <p>9 tissue.</p> <p>10 Q. Do the PMNs appear to be associated with</p> <p>11 those particles?</p> <p>12 A. Yeah, they are clustered together with</p> <p>13 these particles.</p> <p>14 Q. Do you think the particles attracted the</p> <p>15 PMNs?</p> <p>16 A. I doubt it.</p> <p>17 Q. Or are the PMNs responding to the</p> <p>18 presence of the particles?</p> <p>19 MR. HEGARTY: Objection to form.</p> <p>20 THE WITNESS: I think their clustering is</p> <p>21 coincidental, to tell you the truth.</p> <p>22 BY MR. DEARING:</p> <p>23 Q. I guess anecdotally, if you have a</p> <p>24 cluster of foreign particles such as in that</p> <p>25 diagram, wouldn't that attract PMNs?</p>
<p style="text-align: right;">Page 239</p> <p>1 lymphocytes.</p> <p>2 Q. And do they have birefringent particles</p> <p>3 in them or associated with them?</p> <p>4 A. They're associated with them. I don't</p> <p>5 think they're in them. There's several particles</p> <p>6 that are clearly outside of any cytoplasm, just</p> <p>7 lying on the tissue.</p> <p>8 Q. You say, "The photographed cells are</p> <p>9 polymorphonuclear leukocytes."</p> <p>10 A. Okay. So it's acute inflammatory cells.</p> <p>11 I must have written that by looking at the</p> <p>12 microscopic section rather than -- than the</p> <p>13 photograph.</p> <p>14 Q. Those are acute inflammatory cells?</p> <p>15 A. Correct.</p> <p>16 Q. Can you describe what mechanism</p> <p>17 distinguishes between just your normal inflammatory</p> <p>18 reaction and an acute reaction? Is that because of</p> <p>19 the volume or the number of cells?</p> <p>20 A. No, it's the type of cell. So --</p> <p>21 Q. Right.</p> <p>22 A. -- a polymor --</p> <p>23 Q. Go ahead. I'm sorry.</p> <p>24 A. A polymorphonuclear leukocyte is a very</p> <p>25 specific type of cell. It differs completely from</p>	<p style="text-align: right;">Page 241</p> <p>1 A. No. I mean -- no. So it would attract</p> <p>2 macrophages if they were there while the tissue was</p> <p>3 vital.</p> <p>4 Q. So you think it's just coincidence that</p> <p>5 the PMNs exist in that space and the particles just</p> <p>6 landed on top of them --</p> <p>7 A. Yeah. I mean --</p> <p>8 Q. -- but nowhere else?</p> <p>9 A. Well, no, that's not true. They're</p> <p>10 scattered --</p> <p>11 Q. There are a few others --</p> <p>12 A. Yeah.</p> <p>13 Q. -- but they're definitely gathered up on</p> <p>14 top of it.</p> <p>15 A. Yeah. And it may be that the PMNs are a</p> <p>16 little stickier.</p> <p>17 Q. Okay. How do the PMNs differ in</p> <p>18 appearance from macrophages?</p> <p>19 A. PMNs have a lobulated nucleus, usually</p> <p>20 three distinct lobules. The macrophage nucleus is</p> <p>21 round and single.</p> <p>22 Q. Okay. Did you identify any risk factors</p> <p>23 for Ms. Gallardo that may have contributed to cause</p> <p>24 her ovarian cancer?</p> <p>25 A. Other than her age, no.</p>

<p style="text-align: right;">Page 242</p> <p>1 Q. Did Johnson & Johnson's lawyers send you 2 any of Ms. Gallardo's tissue blocks? 3 A. They did not. 4 Q. Did you ask to see any of her tissue 5 blocks? 6 A. I did not. 7 Q. Do you intend to comment on any other 8 slides other than B18 that you discussed 9 previously -- 10 MR. HEGARTY: Objection to form. 11 BY MR. DEARING: 12 Q. -- during your testimony at trial. 13 A. Well, I intend to discuss all of the 14 slides in her case. 15 Q. Did you take photos of any of the slides? 16 A. I did not. 17 Q. Have you produced any invoices in this 18 case? 19 A. I have not. 20 Q. And to your knowledge, did you retain any 21 of the chain of custody documents? 22 A. Again, likely, but I didn't bring it to 23 the deposition by omission. 24 Q. Okay. We're going to Ms. Bondurant. 25 First off, does this report contain all of your</p>	<p style="text-align: right;">Page 244</p> <p>1 carcinoma. 2 Q. Is there a distinction? 3 A. Some people believe that you can have 4 tumors with clear cell features that are not clear 5 cell carcinomas or pure clear cell carcinomas. In 6 this instance, all I had was one needle core 7 biopsy, and the entirety needle core was, in my 8 opinion, clear cell carcinoma. 9 Q. Okay. 10 A. To answer your second question, I did not 11 disagree with any of her clinical doctors. 12 Q. Okay. Near the bottom of page 4 you say, 13 "On 3/28/19, a CT-guided needle biopsy of a 14 possible liver mass reported metastatic high-grade 15 clear cell adenocarcinoma consistent with Mullerian 16 origin." Is that a metastasis from the ovarian 17 cancer? 18 A. Yes. 19 Q. Is that what that's from? On the next 20 page you describe her family -- her medical history 21 as significant for tubal ligation, hysterectomy for 22 fibroid uterus and endometriosis, and three 23 C-sections. In your opinion, did anything in that 24 medical history contribute to cause her clear cell 25 carcinoma?</p>
<p style="text-align: right;">Page 243</p> <p>1 opinions that you intend to offer in this case? 2 A. It does. 3 Q. Are there any materials not listed on 4 your reference list that you're relying on for your 5 opinions in this case? 6 A. I am not. 7 Q. And what did the Johnson & Johnson 8 lawyers ask you to do in this case? 9 A. They asked me to examine Ms. Bondurant's 10 pathology slides and determine what kind of tumor 11 she had, and what stage it was, and if there were 12 any foreign material that could have contributed to 13 her tumor. 14 Q. In your opinion, did Ms. Bondurant's 15 doctors properly diagnose her cancer? 16 A. Yes. 17 Q. Do you disagree with any of the 18 statements or opinions of Ms. Bondurant's treating 19 physicians? 20 A. May I modify my answer to that? 21 Q. Of course. 22 A. They -- the doctors at Tulane, the 23 pathologists there, called it high-grade carcinoma 24 with clear cell features. I went a little bit 25 further than that and called it clear cell</p>	<p style="text-align: right;">Page 245</p> <p>1 A. Yes, her endometriosis. 2 Q. Do you believe that all clear cell 3 carcinomas are caused by endometriosis? 4 A. They're not caused by it. They arise 5 from it. 6 Q. Okay. So your opinion is that all 7 endometrioid ovarian carcinomas and all clear cell 8 ovarian carcinomas arise from endometriosis? 9 A. Endometriosis or endometrioma. 10 Q. Without exception? 11 A. In my mind, without exception. 12 Q. Her family history includes ovarian 13 cancer from of a maternal great aunt, breast cancer 14 of a mother and maternal aunt, and prostate or 15 pancreatic cancer from a maternal uncle, 16 non-Hodgkin's lymphoma from a brother, lymphoma of 17 a maternal grandmother, lung cancer from a brother 18 and other relatives, throat cancer from an uncle. 19 In your opinion, did any of those 20 family cancers contribute to cause her clear cell 21 carcinomas? 22 A. Well, her history of -- of ovarian cancer 23 and maternal great aunt breast cancer and mother 24 and maternal aunts would seem to -- would increase 25 the risk that she would develop ovarian cancer.</p>

<p style="text-align: right;">Page 246</p> <p>1 Q. Well --</p> <p>2 A. That's one first -- one first-degree and</p> <p>3 two second-degree relatives.</p> <p>4 Q. Right. Do you know whether -- well,</p> <p>5 first of all, you don't know the histology or the</p> <p>6 subtype of ovarian cancer that her maternal great</p> <p>7 aunt had, do you?</p> <p>8 A. I do not.</p> <p>9 Q. Do you know whether if it was serous</p> <p>10 carcinoma, which would make up a significant</p> <p>11 percentage of the ovarian cancers, if her maternal</p> <p>12 great aunt had the most common ovarian cancer,</p> <p>13 serous carcinoma, would that have contributed to</p> <p>14 cause her endometriosis in your opinion?</p> <p>15 MR. HEGARTY: Objection to form.</p> <p>16 BY MR. DEARING:</p> <p>17 Q. Or put her at greater risk of</p> <p>18 endometrioid carcinoma? Let me start over.</p> <p>19 A. Clear cell carcinomas.</p> <p>20 Q. Let me start that all over. You can tell</p> <p>21 it's the last one.</p> <p>22 Is it true that we don't know what</p> <p>23 type of ovarian cancer Ms. Bondurant's maternal</p> <p>24 great aunt had?</p> <p>25 A. That is correct.</p>	<p style="text-align: right;">Page 248</p> <p>1 carcinoma from that endometriosis?</p> <p>2 A. I -- family history doesn't specify a</p> <p>3 mechanism. So it just basically says you're more</p> <p>4 likely to get cancer.</p> <p>5 Q. Do you believe clear cell carcinomas are</p> <p>6 influenced by hormones? Carcinomas of the ovary.</p> <p>7 A. They should not.</p> <p>8 Q. Typically -- is it fair to say that</p> <p>9 typically they are not?</p> <p>10 A. Correct.</p> <p>11 Q. And to be clear, none of those other</p> <p>12 cancers mentioned in her family history, other than</p> <p>13 her mother's and her maternal great aunt's, are</p> <p>14 likely to have contributed to her clear cell</p> <p>15 carcinomas; right?</p> <p>16 A. Correct.</p> <p>17 Q. Moving down to the next section where you</p> <p>18 examined the pathology slides, there was one slide</p> <p>19 available for review; correct?</p> <p>20 A. That is correct.</p> <p>21 Q. Did that one slide have any evidence of</p> <p>22 endometriosis in it?</p> <p>23 A. No.</p> <p>24 Q. So your opinion that Ms. Bondurant's</p> <p>25 clear cell carcinoma arose from endometriosis is</p>
<p style="text-align: right;">Page 247</p> <p>1 Q. You agree that by far the most common</p> <p>2 type of ovarian cancer is serous ovarian cancer?</p> <p>3 A. Agree as well.</p> <p>4 Q. If she had -- the maternal great aunt had</p> <p>5 serous ovarian cancer, would that have increased</p> <p>6 Ms. Bondurant's risk of getting clear cell</p> <p>7 carcinomas?</p> <p>8 MR. HEGARTY: Objection, form.</p> <p>9 THE WITNESS: The -- the studies</p> <p>10 associating family history to ovarian carcinoma</p> <p>11 does not divide those carcinomas by cell type.</p> <p>12 They just say increase the risk of ovarian cancer.</p> <p>13 Again, because clear cell carcinomas constitute</p> <p>14 such a small percentage of ovarian carcinomas, it</p> <p>15 would be extremely difficult to ascertain whether</p> <p>16 there is an increased risk of those or not.</p> <p>17 So the only statement that I can</p> <p>18 make is that it puts Ms. Bondurant at an increased</p> <p>19 risk for ovarian cancer. And that's as specific as</p> <p>20 I can get.</p> <p>21 BY MR. DEARING:</p> <p>22 Q. But it seems to me if all clear cell</p> <p>23 carcinomas arise from endometriosis, how could a</p> <p>24 family history of a great aunt's ovarian cancer</p> <p>25 increase her risk of getting that clear cell</p>	<p style="text-align: right;">Page 249</p> <p>1 based solely on the fact that, in your opinion, all</p> <p>2 clear cell carcinomas arise from endometriosis;</p> <p>3 correct?</p> <p>4 A. Well, it also derives from her own</p> <p>5 personal history of having endometriosis.</p> <p>6 Q. Right. Okay. But you saw no evidence of</p> <p>7 endometriosis in that slide that you studied?</p> <p>8 A. In that one needle core biopsy, no. By</p> <p>9 the way, there were more than one slide, but they</p> <p>10 were recuts that were stained for</p> <p>11 immunohistochemistry. So --</p> <p>12 Q. Do you know how many slides you reviewed</p> <p>13 in all? I couldn't really tell --</p> <p>14 A. Seven, including the H&E.</p> <p>15 Q. Okay. You state that the morphologic and</p> <p>16 immunohistochemical findings are diagnostic of a</p> <p>17 clear cell carcinoma of Mullerian origin. What</p> <p>18 does Mullerian origin mean?</p> <p>19 A. The Mullerian tract is the embryologic</p> <p>20 origin of the fallopian tubes, uterus, cervix, and</p> <p>21 vagina.</p> <p>22 Q. Embryologic? In other words --</p> <p>23 A. Yes.</p> <p>24 Q. -- formed as an embryo?</p> <p>25 A. Yeah. So how can I describe this? The</p>

<p style="text-align: right;">Page 250</p> <p>1 embryo starts forming structures in its abdomen, 2 okay? There are two major tubal systems, systems 3 of tubes. One of them is the Wolffian duct. The 4 Wolffian duct gives genesis to the kidneys, 5 ureters, bladder, and in the male -- both male and 6 female -- to the rete testes in the part of the 7 male, rete ovaria in the part of the female, as 8 well as the epididymis in the male, or the mucinous 9 breast in the female, and then the vas. All of 10 those arise from the Wolffian -- I'm sorry -- from 11 the Wolffian duct. 12 The Mullerian duct, which exists only 13 in the women, gives genesis to the fallopian tubes, 14 the uterus, the cervix, and the vagina. So when 15 you say Mullerian origin, it means it was either a 16 vaginal/cervical/uterine or fallopian tube 17 epithelium origin. 18 Q. So it was deriving from those organs. 19 A. The cell types of those organs. 20 Q. Right. But not in utero; right? I mean, 21 it was as a mature adult. 22 A. You're correct. 23 Q. You're just describing the organs from 24 which it derived. 25 A. Right. And the reason you use Mullerian</p>	<p style="text-align: right;">Page 252</p> <p>1 Q. So if a lady gets it in -- you know, in 2 the '80s, she is likely to still have it in 2020? 3 A. Yes. It can -- it can become dormant, 4 not cause symptoms. And part of the therapy for 5 symptomatic endometriosis is to various -- they use 6 various tactics, most of them hormonal -- either 7 give the woman a lot of progesterone to stop the 8 proliferation and attempt to put it into a dormant 9 condition. There are some people who give chemical 10 castration drugs to have the ovaries not secrete 11 any estrogen. So -- so it can -- it can be put to 12 sleep or become less symptomatic. And in some 13 women, it stays dormant. In most women, it does 14 not. 15 Q. And by not being dormant, you mean that 16 once the endometrial cells relocate to some organ 17 where they shouldn't be, they then replicate where 18 they are? 19 A. Again, they can in some -- in some people 20 there's tiny foci. In other women, there's many 21 large foci. It's really dependent on the case. 22 There's a lot of variation. 23 Q. Did you generate any invoices in the 24 Bondurant case? 25 A. I did not yet, no.</p>
<p style="text-align: right;">Page 251</p> <p>1 origin is to distinguish it from clear cell 2 carcinomas of the kidney. 3 Q. So even though it's of Mullerian origin, 4 how does the Mullerian origin relate to the 5 background of endometriosis? 6 A. Endometriosis is Mullerian origin. 7 Q. As well. 8 A. As well. 9 Q. Okay. If there were blocks available in 10 this case, you would not have looked at them, would 11 you? 12 A. I would not have. 13 Q. Nor would you have asked for them? 14 A. No. 15 Q. When you say that -- on page 7 you state 16 that this clear cell carcinoma arose within the 17 background of preexisting endometriosis. That's 18 based solely on the medical history that she had 19 endometriosis in the '80s, and then the fact of 20 your opinion that all clear cells arise from 21 endometriosis? 22 A. Correct. 23 Q. Okay. Endometriosis does resolve 24 sometimes, doesn't it? 25 A. Almost never.</p>	<p style="text-align: right;">Page 253</p> <p>1 Q. And do you know whether you retained a 2 copy of the chain of custody for the slides? 3 A. Almost without question. I just 4 neglected to bring it to this deposition. 5 MR. DEARING: All right. We can take 6 another break, and then I'll just look at my notes 7 and see if I forgot anything. 8 (Break taken.) 9 MR. DEARING: I don't have any other 10 questions. 11 E X A M I N A T I O N 12 BY MR. HEGARTY: 13 Q. Good afternoon, Dr. Felix. 14 A. Good afternoon. 15 Q. I have some follow-up areas that will 16 track Mr. Dearing's examination of you over the 17 last several hours. 18 You were asked about whether, in your 19 current practice, you meet with patients to discuss 20 your review and analysis of their tissue or their 21 cytology. But do you -- and you mentioned that you 22 typically do not meet with the patients, or rarely 23 have met with the patients that you've -- since 24 you've been at the Medical College of Wisconsin; is 25 that correct?</p>

<p style="text-align: right;">Page 254</p> <p>1 A. Correct, yes.</p> <p>2 Q. But with regard to their treating</p> <p>3 physicians, do you regularly interact with the</p> <p>4 doctors who are treating the patients for their</p> <p>5 ovarian and other gynecologic cancer with respect</p> <p>6 to your review and analysis of their tissue or</p> <p>7 cytology?</p> <p>8 A. Yes, almost on a daily basis.</p> <p>9 Q. Can you describe for us just briefly how</p> <p>10 those interactions occur, or what transpires?</p> <p>11 A. They can occur -- a law went into effect</p> <p>12 that the minute you enter a medical record, it must</p> <p>13 be accessible to the patient. Patients have</p> <p>14 software called MyChart. So every time that</p> <p>15 there's cancer, and I look into the provider and</p> <p>16 it's not an oncologist where I know that the</p> <p>17 person's expecting a cancer diagnosis if they went</p> <p>18 to an oncologist -- but for every general gyn will</p> <p>19 get a phone call from me to discuss the case. And</p> <p>20 it usually involves a little education, because</p> <p>21 general ob/gyns are not very familiar with</p> <p>22 malignancies.</p> <p>23 So that's the number -- most common</p> <p>24 interaction that I have. And that occurs almost on</p> <p>25 a daily basis. Then I discuss cases at the time of</p>	<p style="text-align: right;">Page 256</p> <p>1 cancer and making that diagnosis.</p> <p>2 When, over the course of your career,</p> <p>3 when and in what circumstances do you use polarized</p> <p>4 light microscopy?</p> <p>5 A. I use it every time I have granulomatous</p> <p>6 inflammation or an unusual grouping of macrophages.</p> <p>7 In both of those situations, I will polarize the</p> <p>8 tissue.</p> <p>9 Q. You indicated that you're not currently</p> <p>10 working on any publications that discuss ovarian</p> <p>11 cancer, but what are you doing on a weekly basis</p> <p>12 with regard to reviewing and diagnosing ovarian</p> <p>13 cancer?</p> <p>14 A. Currently I'm the only gyn pathologist at</p> <p>15 MCW, so I see every ovarian cancer that comes out.</p> <p>16 I see actually all of the gyn pathology samples</p> <p>17 that come out of the ORs, or clinics. So I'm</p> <p>18 getting help, thank goodness. I'm getting two</p> <p>19 people who are fellowship trained in gyn. So that</p> <p>20 will provide some relief. But I expect one of</p> <p>21 them, at least, to show me everything.</p> <p>22 Q. Approximately how many new ovarian cancer</p> <p>23 cases do you diagnose on a weekly basis?</p> <p>24 A. It varies from week to week, but I would</p> <p>25 say that an average of two to three a week.</p>
<p style="text-align: right;">Page 255</p> <p>1 tumor board. And -- and in those tumor boards I</p> <p>2 very frequently will -- will make observations that</p> <p>3 aren't -- my observation's intended to make the</p> <p>4 clinician do something that they weren't planning</p> <p>5 on doing. So I interact a lot with them.</p> <p>6 Q. Can you give us an example of where your</p> <p>7 comments at a tumor board may lead the clinician to</p> <p>8 do something that they weren't planning on doing?</p> <p>9 A. Yes. So the pathology report, the last</p> <p>10 one that I remember, it was squamous cell</p> <p>11 carcinoma. Maximum depth of invasion point was one</p> <p>12 millimeter. But then it was present at the margin.</p> <p>13 And when they were discussing the case</p> <p>14 they said, oh, it's one millimeter. We can just do</p> <p>15 a simple hysterectomy. Oh, no, no, no, no, no.</p> <p>16 It's one millimeter, but it could be much, much</p> <p>17 deeper because it's at the margin. So basically I</p> <p>18 went -- I basically asked them, to be completely</p> <p>19 safe and not do a cut-through hysterectomy, you</p> <p>20 should probably do a cold biopsy. So I</p> <p>21 strong-armed them into doing a cold biopsy.</p> <p>22 Q. You indicated earlier in your testimony</p> <p>23 that as a general rule you do not use polarized</p> <p>24 light microscopy when you're looking at a tissue</p> <p>25 removed from a patient that potentially has ovarian</p>	<p style="text-align: right;">Page 257</p> <p>1 Q. And with regard to those two to three a</p> <p>2 week over the course of the month, which would add</p> <p>3 up to be maybe twelve, are some of those the type</p> <p>4 of cancer we've been talking about today, serous</p> <p>5 endometrioid and clear cell?</p> <p>6 A. Yeah, most of them are serous. We do get</p> <p>7 a fair amount of clear cell in Wisconsin for some</p> <p>8 unusual reason.</p> <p>9 Q. You were asked by Mr. Dearing, counsel</p> <p>10 for the plaintiffs in these cases, about the known</p> <p>11 causes of ovarian cancer. And you talked about</p> <p>12 gene mutations, and then later on you started</p> <p>13 discussing with regard to the individual patients'</p> <p>14 endometriosis. Is endometriosis a known cause of</p> <p>15 certain types of ovarian cancer?</p> <p>16 A. It is not the cause of ovarian cancer.</p> <p>17 It is the tissue of origin of ovarian cancer.</p> <p>18 Q. That may be the better way to put it.</p> <p>19 When you talked to us earlier about clear cell and</p> <p>20 endometriotic endometrioid carcinomas arising out</p> <p>21 of endometriosis or an endometriotic cyst; is that</p> <p>22 correct?</p> <p>23 A. That's correct, yes.</p> <p>24 Q. In one instance you showed us that, but</p> <p>25 is this arising out of a -- a trans --</p>

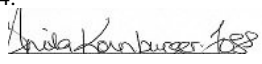
<p style="text-align: right;">Page 258</p> <p>1 A. Transition?</p> <p>2 Q. -- transition of endometriosis or of</p> <p>3 endometriotic cyst to either clear cell or</p> <p>4 endometrioid carcinoma?</p> <p>5 A. Correct.</p> <p>6 Q. Also cancer of the ovary, as we talked</p> <p>7 about with regard to Ms. Balderrama, can be a</p> <p>8 metastasis from uterine cancer; correct?</p> <p>9 A. Correct.</p> <p>10 Q. And with regard to these origins of</p> <p>11 ovarian cancer, you talked about those, including</p> <p>12 gene mutations in your reports; correct?</p> <p>13 A. Yes.</p> <p>14 Q. You were asked some questions about</p> <p>15 reactive oxygen species. With regard to reactive</p> <p>16 oxygen species, are those created by the body in</p> <p>17 response to exercise, for example?</p> <p>18 A. You can -- you can get reactive oxygen</p> <p>19 species because of exercise, yes.</p> <p>20 Q. I guess put it another way: Reactive</p> <p>21 oxygen species are a normal part of human</p> <p>22 physiology, and the body then deals with those</p> <p>23 reactive oxygen species -- let me start over again.</p> <p>24 Reactive oxygen species are a normal</p> <p>25 part of human physiology; correct?</p>	<p style="text-align: right;">Page 260</p> <p>1 BY MR. HEGARTY:</p> <p>2 Q. Were you also aware that such a response</p> <p>3 does not cause any form of cancer?</p> <p>4 MR. DEARING: Objection, form.</p> <p>5 THE WITNESS: Not to my knowledge.</p> <p>6 BY MR. HEGARTY:</p> <p>7 Q. So prior to being contacted by counsel</p> <p>8 for Johnson & Johnson, it was your belief and</p> <p>9 understanding that granulomas and foreign body</p> <p>10 responses don't increase the risk of cancer or</p> <p>11 cancer does not develop from such a response;</p> <p>12 correct?</p> <p>13 MR. DEARING: Objection to form.</p> <p>14 Leading.</p> <p>15 THE WITNESS: Correct.</p> <p>16 BY MR. HEGARTY:</p> <p>17 Q. And that your opinions in these cases</p> <p>18 that talcum powder use does not cause ovarian</p> <p>19 cancer are based on all of the authorities you cite</p> <p>20 in your reports, which include the epidemiologic</p> <p>21 studies, the cell studies and animal studies; is</p> <p>22 that correct?</p> <p>23 A. Yes.</p> <p>24 Q. You were asked about a type of long-term</p> <p>25 destructive inflammation that has been linked to</p>
<p style="text-align: right;">Page 259</p> <p>1 A. Correct.</p> <p>2 Q. You were asked about whether you'll offer</p> <p>3 opinions regarding the epidemiologic literature as</p> <p>4 it relates to talcum powder use and ovarian cancer.</p> <p>5 To the extent that you would offer such opinions,</p> <p>6 those are set out in your expert reports for the</p> <p>7 cases we talked about today; correct?</p> <p>8 A. Correct.</p> <p>9 Q. You were asked about the type of</p> <p>10 inflammatory response that foreign particles,</p> <p>11 including talc, can cause in tissue. And those</p> <p>12 are, as you identified, granulomatous for foreign</p> <p>13 body response. Recall testifying to that?</p> <p>14 A. Yes.</p> <p>15 Q. You were also asked about whether you had</p> <p>16 reached any conclusions prior to being contacted by</p> <p>17 Johnson & Johnson's counsel with regard to any</p> <p>18 relationship between talc and ovarian cancer.</p> <p>19 Certainly prior to being contacted by counsel for</p> <p>20 Johnson & Johnson you were aware of the process we</p> <p>21 just talked about of the body forming a -- or</p> <p>22 having a foreign body or granulomatous response to</p> <p>23 particles in tissue; correct?</p> <p>24 A. Yes.</p> <p>25 MR. DEARING: Object to form. Leading.</p>	<p style="text-align: right;">Page 261</p> <p>1 certain types of cancer. Can you describe for us</p> <p>2 what that long-term destructive inflammation looks</p> <p>3 like?</p> <p>4 A. Yes. So in that long-term inflammation</p> <p>5 you get constant tissue destruction and constant</p> <p>6 tissue regeneration. And it is that regeneration</p> <p>7 that prompts or makes mutations more likely.</p> <p>8 Q. And is that constant destruction and</p> <p>9 regeneration visible under the microscope?</p> <p>10 A. It's very easily visible.</p> <p>11 Q. And what cancers are associated with</p> <p>12 that kind of destruction that happens from</p> <p>13 long-term -- certain types of long-term</p> <p>14 inflammation?</p> <p>15 A. The best known are colon cancers arising</p> <p>16 in ulcerative colitis, where the inflammatory</p> <p>17 response constantly destroys the colonic mucosa.</p> <p>18 And eventually I think the risk of developing colon</p> <p>19 cancer up to age 60 is, like, 95 percent. So</p> <p>20 almost a certainty.</p> <p>21 Q. Okay. And in the pathology slides you</p> <p>22 look at on a daily basis, are you looking for that</p> <p>23 and other types of inflammation, including that</p> <p>24 could be characterized as -- as a foreign body</p> <p>25 response or a granulomatous reaction?</p>

<p style="text-align: right;">Page 262</p> <p>1 A. Yes. Again, the reason for that is</p> <p>2 granulomas can be foreign body granulomas, but they</p> <p>3 can also be infectious granulomas. And it's very</p> <p>4 important to identify the infectious ones.</p> <p>5 Q. You were asked some questions by</p> <p>6 Mr. Dearing about whether you had seen reports of</p> <p>7 asbestos in talcum powder. Do you recall those</p> <p>8 questions?</p> <p>9 A. Yes.</p> <p>10 Q. I believe you had indicated, in response</p> <p>11 to at least one of those -- one of the questions in</p> <p>12 this line of questions, that talcum powder probably</p> <p>13 did contain some level of asbestos. You were not</p> <p>14 talking about Johnson's baby powder; correct?</p> <p>15 MR. DEARING: Objection, form.</p> <p>16 THE WITNESS: I was not talking about any</p> <p>17 specific brand of talcum powder.</p> <p>18 BY MR. HEGARTY:</p> <p>19 Q. You have never seen reports of Johnson's</p> <p>20 baby powder containing any levels of asbestos;</p> <p>21 correct?</p> <p>22 MR. DEARING: Objection, form.</p> <p>23 THE WITNESS: I have -- I don't recollect</p> <p>24 ever seeing a report saying that Johnson's product,</p> <p>25 Johnson & Johnson baby powder, had asbestos.</p>	<p style="text-align: right;">Page 264</p> <p>1 Q. You were asked about the anatomical</p> <p>2 descriptions of the reproductive tract shown in</p> <p>3 Exhibits 3 and 4. Do we have Exhibits 3 and 4</p> <p>4 there? Now, with regard to those anatomical</p> <p>5 descriptions in those exhibits --</p> <p>6 A. This is 1 and 2.</p> <p>7 Q. I'm sorry, 1 and 2. You were asked about</p> <p>8 the anatomical diagrams shown in Exhibit 1 and 2.</p> <p>9 Do each of those anatomical diagrams show a vagina</p> <p>10 that's open like an open tube?</p> <p>11 A. Yes.</p> <p>12 Q. Is that a proper anatomical description</p> <p>13 of what the vagina looks like?</p> <p>14 A. It is not.</p> <p>15 Q. Okay. What does the vagina look like?</p> <p>16 A. The vagina is a potential space. So the</p> <p>17 walls of the vagina touch each other.</p> <p>18 Q. The anatomical description marked as</p> <p>19 Exhibit 1 and 2 also show an open uterine cavity,</p> <p>20 and also show an open fallopian tube. Is that what</p> <p>21 they appear in real life?</p> <p>22 A. No. The endometrium touches -- the</p> <p>23 anterior endometrium touches the posterior</p> <p>24 endometrium. So again, it's a potential space.</p> <p>25 Q. With regard to the fallopian tube, it's</p>
<p style="text-align: right;">Page 263</p> <p>1 BY MR. HEGARTY:</p> <p>2 Q. And it's not your opinion in these cases</p> <p>3 that Johnson's baby powder has ever contained any</p> <p>4 amount of asbestos; correct?</p> <p>5 MR. DEARING: Objection, form.</p> <p>6 THE WITNESS: It is not my opinion.</p> <p>7 BY MR. HEGARTY:</p> <p>8 Q. In fact, when you were talking about</p> <p>9 reports of asbestos in talc, you made specific</p> <p>10 reference to the IARC monograph talking about -- or</p> <p>11 the IARC monographs you had read; correct?</p> <p>12 A. Correct.</p> <p>13 Q. And in those IARC monographs, they don't</p> <p>14 specifically refer to the source of the talc that</p> <p>15 they're talking about; correct?</p> <p>16 A. That is correct as well.</p> <p>17 Q. When you were talking about the asbestos</p> <p>18 in talc, you were talking about over the course of</p> <p>19 the -- the use of talc at whatever -- whatever</p> <p>20 standards that -- whether it's industrial or other</p> <p>21 standards -- that you have seen reports and perhaps</p> <p>22 did believe as to certain of those reports, that</p> <p>23 some types of talc over the years have contained</p> <p>24 some amounts of asbestos?</p> <p>25 A. Correct.</p>	<p style="text-align: right;">Page 265</p> <p>1 not a clear tube like a straw; correct?</p> <p>2 A. Correct. It's full of fimbriae -- plica,</p> <p>3 which is the mucosa of the fallopian tube.</p> <p>4 Q. You were asked about Exhibit Number 3,</p> <p>5 which is one of the McDonald studies.</p> <p>6 A. Yes.</p> <p>7 Q. If you could find Exhibit Number 3 there.</p> <p>8 I have just a couple of follow-up questions.</p> <p>9 With regard to Exhibit Number 3, the</p> <p>10 McDonald study, is Dr. Godleski and his co-authors</p> <p>11 doing the same thing -- reporting on the same thing</p> <p>12 in this study that Dr. Godleski reported on in a</p> <p>13 number of the cases we talked about today?</p> <p>14 MR. DEARING: Objection, form.</p> <p>15 THE WITNESS: I'm sorry, can you repeat</p> <p>16 that question?</p> <p>17 BY MR. HEGARTY:</p> <p>18 Q. Sure. Is what Dr. Godleski and his</p> <p>19 co-authors are doing in this study essentially the</p> <p>20 same thing that Dr. Godleski has done in his</p> <p>21 reports for a number of the cases we talked about</p> <p>22 today?</p> <p>23 A. Yes.</p> <p>24 MR. DEARING: Objection, form.</p> <p>25 BY MR. HEGARTY:</p>

<p style="text-align: right;">Page 266</p> <p>1 Q. In other words, did he essentially apply 2 the same methodologies in this McDonald study as he 3 applied in the reports that we talked about today? 4 A. That is correct. 5 Q. And is it your understanding that in the 6 McDonald study, he reported on five patients who 7 are also litigation plaintiffs in cases involving 8 talc and ovarian cancer? 9 MR. DEARING: Objection, form. 10 THE WITNESS: I've been informed of that, 11 yes. 12 BY MR. HEGARTY: 13 Q. As in his reports, Dr. Godleski and the 14 co-authors don't show any particles 15 identified -- don't prove that any particles -- let 16 me start over again. 17 With regard to Dr. Godleski's and his 18 co-authors in the McDonald paper, they do not show 19 that any of the particles that they identified by 20 PLM are talc; correct? 21 A. Correct. 22 Q. That's also what -- that's also the same 23 thing that Dr. Godleski says in the cases we talked 24 about today, that the -- that he cannot identify 25 the particles he reports on as being birefringent</p>	<p style="text-align: right;">Page 268</p> <p>1 talc in tissue. Have you seen that plus or minus 2 five percent variance used by any other author in 3 any other published, peer-reviewed publication? 4 A. Not that I'm aware of, no. 5 Q. You were asked about whether you would 6 have opinions about asbestos and whether it can 7 cause ovarian cancer, and you provided those 8 opinions to Mr. Dearing. If you pull out just one 9 of your reports -- it can be the Carl report. 10 A. Okay. 11 Q. If you turn over to page 5. In footnote 12 two, you specifically reference a couple of 13 authorities that you rely upon, among others, for 14 your opinion that asbestos exposure does not cause 15 ovarian cancer. Those authorities are particularly 16 the Reid 2011 paper and the Slomovitz 2020 paper? 17 A. Correct. 18 Q. You were asked about your lab and the 19 extent of any asbestos in that lab. And you talked 20 about the potential for asbestos in your lab. 21 Are you able to say that the 22 laboratories that process the tissues that we've 23 talked about here today have the same, perhaps, 24 limitation of asbestos as your lab does here? 25 A. Yes. Asbestos is pretty much everywhere.</p>
<p style="text-align: right;">Page 267</p> <p>1 by PRM talc. You understand that? 2 A. Yes. 3 Q. And with regard to your response to the 4 McDonald study, does that -- does your response 5 track your response to what Dr. Godleski has done 6 in all the reports we talked about today? 7 MR. DEARING: Objection, form. 8 BY MR. HEGARTY: 9 Q. Does that make sense? 10 A. Yes. 11 Q. In the McDonald study, did Dr. Godleski 12 or his co-authors report on any foreign body 13 response or granulomatous to any particles? 14 A. The only foreign body response would be 15 phagocytosis of particles by macrophages. 16 Q. Did he and his authors report any 17 granulomatous or foreign body giant cells? 18 A. They did not. 19 Q. And with regard to the particles that you 20 identified as being in macrophages in the cases we 21 talked about today, those particles cannot be 22 identified as talc; correct? 23 A. Correct. 24 Q. You were also asked about Dr. Godleski's 25 plus or minus five percent factor in identifying</p>	<p style="text-align: right;">Page 269</p> <p>1 Q. But can you -- I know you can talk about 2 your -- the asbestos potential for your lab here in 3 Wisconsin, but can you talk about the asbestos 4 potential in the labs of the -- of the hospitals 5 that processed the tissues that we've been talking 6 about here today? 7 A. I can. 8 Q. Have you -- have you been in each of 9 those labs? 10 A. I have not. 11 Q. So are you able to comment about those 12 labs as you're able to comment here about your lab? 13 A. Yes. In general, all laboratories suffer 14 from the same condition. Construction will 15 inevitably leave trace asbestos fibers behind. 16 Q. And some labs may have more asbestos 17 fibers than others; correct? 18 A. They may, uh-huh. 19 Q. It can depend on the age of the 20 laboratory; correct? 21 A. Yes. 22 Q. It can depend on the level of 23 construction that has gone on in and around the 24 hospital complex where the lab is; correct? 25 A. Correct.</p>

<p style="text-align: right;">Page 270</p> <p>1 Q. You were asked about whether you were 2 challenging Dr. Godleski's finding of talc by SEM 3 and EDX, that is, are you saying that he 4 misidentified the particles as talc. But are 5 you -- but are you challenging in these cases his 6 conclusions that whatever he has seen came from the 7 patient's use of Johnson's baby powder? 8 MR. DEARING: Objection, form. 9 THE WITNESS: Can you repeat that -- 10 rephrase it? 11 BY MR. HEGARTY: 12 Q. Sure. Do you remember being asked about 13 whether you're taking issue with Dr. Godleski's 14 finding of talc in tissue, that is, saying that he 15 misidentified the particles as talc. Do you 16 remember being asked those questions? 17 A. Yes. 18 Q. But are you challenging, though, 19 Dr. Godleski's conclusions from those findings that 20 the particles he has seen came from the patient's 21 use of Johnson's baby powder prior to their 22 surgery? 23 A. I am challenging that, yes. 24 Q. And as far as the particles that 25 Dr. Godleski did detect by SEM EDX, whether they're</p>	<p style="text-align: right;">Page 272</p> <p>1 Q. That would include any patient's 2 description of their baby powder use; correct? 3 A. Yes, it -- I was asked whether it 4 mattered to my opinion, and I said no. 5 Q. And why does it not -- why does the 6 specifics of each of the patient's use of Johnson's 7 baby powder not matter to your opinions? 8 A. Because I don't find talcum powder 9 associated with a foreign body reaction in any of 10 them. So it doesn't matter to me whether they used 11 a little or a lot. To me, nothing got up. 12 Q. You had mentioned that particles greater 13 than five microns or greater will cause a 14 granulomatous reaction; is that correct? 15 A. Correct. 16 Q. And in fact in some of the cases we 17 talked about, Dr. Godleski in his images showed 18 particles that sometimes were well in excess of 19 five microns? 20 A. Correct. 21 Q. And in any of those cases were -- was 22 there a granulomatous reaction? 23 A. No. 24 Q. What does that tell you? 25 A. It tells me that that particle was not</p>
<p style="text-align: right;">Page 271</p> <p>1 talc or otherwise, in your opinion, where did those 2 particles come from? 3 A. They likely came from processing. 4 Q. And in particular, as far as likely 5 coming from processing, your reports say that that 6 processing includes the handling, grossing and 7 the -- and preparing the slides using molten 8 paraffin wax; correct? 9 A. Correct. 10 Q. You were asked, as we talked about each 11 of the plaintiff's cases today, what you were asked 12 to do by Johnson & Johnson's counsel. And in each 13 case does your report set out on the very first 14 paragraph what you were asked to do? 15 A. Yes. 16 Q. And then does the report that follows 17 flow from what you were asked to do? 18 A. Yes. 19 Q. You were asked in each of these -- as to 20 each of the cases whether the plaintiff's use of 21 Johnson's baby powder was necessary for your 22 opinions in this case. In each of the -- in each 23 case we talked about here today, did you read the 24 plaintiff's deposition testimony? 25 A. Yes, in most of them.</p>	<p style="text-align: right;">Page 273</p> <p>1 there while the organ was vital. 2 Q. You were asked about the invoices in 3 Exhibit Number 4. Were some of the items that you 4 invoiced in Exhibit Number 4 your expenses? 5 A. Yes. 6 Q. Is that simply paying you back for 7 expenses that you incurred? 8 A. Yes. 9 Q. As to Ms. Balderrama, you were asked 10 about the basis for your conclusion that 11 her -- that the carcinoma found in her ovary was a 12 metastasis from the endometrium. Do you recall 13 being asked about that? 14 A. Yes. 15 Q. Do those bases include her clinical 16 history of having complex hyperplasia? And feel 17 free to look at your report. 18 A. No, I'm very aware of that. But yes, I 19 mean, meaning that -- that her endometrial cancer 20 started in her uterus, yes. 21 Q. And is having a clinical history of 22 complex hyperplasia consistent with her ultimately 23 developing endometrial carcinoma? 24 A. Yes, complex hyperplasia with atypia is 25 the precursor lesion to endometrial cancer.</p>

<p style="text-align: right;">Page 274</p> <p>1 Q. Do you also base your opinions that</p> <p>2 Ms. Balderrama's ovarian tumor was a metastasis</p> <p>3 from her endometrial tumor on the medical</p> <p>4 literature that discusses simultaneous endometrial</p> <p>5 and ovarian tumors?</p> <p>6 A. Yes.</p> <p>7 Q. And does that include the medical</p> <p>8 literature that has looked at the molecular genetic</p> <p>9 data? In particular you make reference in your</p> <p>10 report about that in the last ten years, molecular</p> <p>11 genetic damage has accumulated to support the</p> <p>12 current understanding that the vast majority of</p> <p>13 these synchronous primary tumors are clonal in</p> <p>14 nature and represent metastatic endometrial cancer.</p> <p>15 You cite Verrick, among other authorities.</p> <p>16 Are you also relying on those</p> <p>17 authorities for your opinions as to Ms. Balderrama?</p> <p>18 A. Yes.</p> <p>19 Q. You were asked some questions about the</p> <p>20 2020 O'Brien study. Do you recall being asked</p> <p>21 about that study?</p> <p>22 A. Yes.</p> <p>23 Q. In particular you were asked about the</p> <p>24 sister study part of O'Brien 2020. Do you recall</p> <p>25 that?</p>	<p style="text-align: right;">Page 276</p> <p>1 the -- the diagnosis of endometriosis -- or let me</p> <p>2 ask it a different way.</p> <p>3 Where indicated in your reports in</p> <p>4 those patients that had clear cell endometrioid</p> <p>5 carcinoma, did those cancers arise out of</p> <p>6 endometriosis in each case?</p> <p>7 A. Yes.</p> <p>8 Q. And is it your opinion in each case that</p> <p>9 the etiology of the endometrioid and clear cell</p> <p>10 carcinomas was endometriosis?</p> <p>11 A. Yes.</p> <p>12 Q. And with regard to what you were asked to</p> <p>13 do in this case, were you asked to review all the</p> <p>14 medical records and comment on or provide testimony</p> <p>15 about all of the plaintiffs' medical conditions and</p> <p>16 risk factors?</p> <p>17 A. I -- I mean, I did it. I tried to do it.</p> <p>18 Q. But were you specifically asked to take</p> <p>19 an in-depth look at all the risk factors of each</p> <p>20 plaintiff, look at all the medical records, and</p> <p>21 comment on each potential risk factor?</p> <p>22 A. No.</p> <p>23 Q. So to the extent that a plaintiff in</p> <p>24 these cases has a genetic mutation or other</p> <p>25 recognized risk factor that should be considered in</p>
<p style="text-align: right;">Page 275</p> <p>1 A. Yes.</p> <p>2 Q. Does O'Brien 2020 also include as</p> <p>3 its -- its data data from the women's health</p> <p>4 initiative and the nurses' health study?</p> <p>5 A. It does.</p> <p>6 Q. So does O'Brien -- do the inclusions from</p> <p>7 the -- by the O'Brien authors include the sister</p> <p>8 study -- or stem from their review of the sister</p> <p>9 study, women's health study, and women's health</p> <p>10 initiative data?</p> <p>11 A. Correct.</p> <p>12 Q. You were also asked questions as to each</p> <p>13 plaintiff we talked about today as to the cause of</p> <p>14 that plaintiff's cancer. Do you recall those</p> <p>15 questions?</p> <p>16 A. Yes.</p> <p>17 Q. And does your report -- or do your</p> <p>18 reports in these cases set out your causation</p> <p>19 opinions?</p> <p>20 A. Yes.</p> <p>21 Q. And is one of those opinions that talc</p> <p>22 use did not play a role in the development of each</p> <p>23 plaintiff's ovarian cancer?</p> <p>24 A. Yes.</p> <p>25 Q. And where indicated in your reports, was</p>	<p style="text-align: right;">Page 277</p> <p>1 determining the etiology of that plaintiff's</p> <p>2 cancer, you were not asked to consider and provide</p> <p>3 testimony about such factors -- such risk factors</p> <p>4 beyond what's in your report; correct?</p> <p>5 MR. DEARING: Objection, form. Leading.</p> <p>6 THE WITNESS: Correct.</p> <p>7 BY MR. HEGARTY:</p> <p>8 Q. And with regard to the variants of</p> <p>9 unknown significance that we talked about in some</p> <p>10 of the reports, does that mean that the data is</p> <p>11 not -- is just not sufficient yet to determine</p> <p>12 whether those variants are associated with an</p> <p>13 increased risk of ovarian cancer?</p> <p>14 A. That is correct. Usually it means</p> <p>15 there's insufficient data.</p> <p>16 Q. And do any of the tests that we talked</p> <p>17 about here today, that is the genetic tests, rule</p> <p>18 out that the patient had a genetic mutation that,</p> <p>19 whether known or unknown, that could be related to</p> <p>20 their developing ovarian cancer?</p> <p>21 A. It does not rule it out completely, no.</p> <p>22 MR. HEGARTY: Let's go off the record.</p> <p>23 Give me about five minutes.</p> <p>24 (Break taken.)</p> <p>25 MR. HEGARTY: Those are all the questions</p>

<p style="text-align: right;">Page 278</p> <p>1 I have for you, Dr. Felix. Thank you.</p> <p>2 EXAMINATION</p> <p>3 BY MR. DEARING:</p> <p>4 Q. I just have one. You mentioned that when</p> <p>5 you observed granulomatous inflammation in slides,</p> <p>6 that's when you decide to polarize them. Why do</p> <p>7 you polarize them?</p> <p>8 A. Because if it's a foreign particle, I</p> <p>9 don't have to do infectious disease stains.</p> <p>10 Q. So if it polarizes, that tells you it's a</p> <p>11 foreign particle?</p> <p>12 A. It's a foreign body granuloma, yes.</p> <p>13 Q. There are lots of foreign particles that</p> <p>14 don't have birefringence properties, though; right?</p> <p>15 A. I beg your pardon?</p> <p>16 Q. There are lots of foreign particles that</p> <p>17 aren't birefringent; right?</p> <p>18 A. Correct. If they -- they usually will be</p> <p>19 visible by H&E, the ones that are not refringent.</p> <p>20 But if they're not visible by H&E, and they're not</p> <p>21 refringent, then I'll get the stain.</p> <p>22 MR. DEARING: Okay. That's all I have.</p> <p>23 MR. HEGARTY: Thank you. We will read</p> <p>24 and sign.</p> <p>25 (Deposition concluded at 5:12 p.m.)</p>	<p style="text-align: right;">Page 280</p> <p>1 DEPOSITION ERRATA SHEET</p> <p>2</p> <p>3 DECLARATION UNDER PENALTY OF PERJURY</p> <p>4 I declare under penalty of perjury</p> <p>5 that I have read the entire transcript of</p> <p>6 my deposition taken in the captioned matter</p> <p>7 or the same has been read to me, and</p> <p>8 the same is true and accurate, save and</p> <p>9 except for changes and/or corrections, if</p> <p>10 any, as indicated by me on the DEPOSITION</p> <p>11 ERRATA SHEET attached, with the understanding</p> <p>12 that I offer these changes as if still under</p> <p>13 oath.</p> <p>14 Signed on the _____ day of</p> <p>15 _____, 2024.</p> <p>16</p> <p>17 _____</p> <p>18 Juan Felix, MD</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>
<p style="text-align: right;">Page 279</p> <p>1 STATE OF WISCONSIN)</p> <p>2) ss.</p> <p>3 COUNTY OF MILWAUKEE)</p> <p>4 I, ANITA KORNBURGER, Registered</p> <p>5 Professional Reporter and Notary Public in and</p> <p>6 for the State of Wisconsin, do hereby certify</p> <p>7 that the preceding deposition was recorded by</p> <p>8 me and reduced to writing under my personal</p> <p>9 direction.</p> <p>10 I further certify that said deposition was</p> <p>11 taken at 8701 Watertown Plank Road, Milwaukee,</p> <p>12 Wisconsin, on June 22, 2024, commencing at 9:08</p> <p>13 a.m. and concluding at 5:12 p.m.</p> <p>14 I further certify that I am not a relative</p> <p>15 or employee or attorney or counsel of any of</p> <p>16 the parties, or a relative or employee of such</p> <p>17 attorney or counsel, or financially interested</p> <p>18 directly or indirectly in this action.</p> <p>19 In witness whereof, I have hereunto set my</p> <p>20 hand and affixed my seal of office at</p> <p>21 Milwaukee, Wisconsin, this 11th day of July,</p> <p>22 2024.</p> <p>23 </p> <p>24 ANITA KORNBURGER, RPR - Notary Public</p> <p>25 My commission expires May 24, 2025.</p>	

[& - 5]

Page 1

&	10,000 125:9	2020 13:10	310 2:11
& 1:4 2:6 46:15	100 40:15	156:16 195:21	325 28:3
46:21 47:1,20	100,000 77:4	252:2 268:16	334-269-2343
47:20,24 48:11	11 3:15 207:16	274:20,24	2:4
48:17,20 49:9	11th 279:20	275:2	34 66:15
49:19 51:22	12 3:16 207:16	2024 1:12	35 66:23
62:4,8,24 73:3	13 3:17 227:23	160:22 279:11	350 158:7,10,13
73:7 132:24	227:25 228:1	279:21 280:15	36104 2:3
139:2 140:8,9	230:23	2025 279:23	37 171:16
141:4 162:13	14 3:18 229:4	2051 279:21	3a 178:16
184:7 189:3	15 31:12 32:22	207 3:10,11,12	3a2 191:20
190:3 191:1	32:25 33:3,9,11	3:13,14,15,16	4
202:4 203:14	33:12,14 35:2,5	21 65:16	4 2:17 3:7
213:23 215:12	140:14	218 2:3	143:14 160:13
223:14,25	16-2738 1:6	22 1:12 279:11	160:16 244:12
224:20 242:1	160 3:7	227 3:17	264:3,3 273:3,4
243:7 259:17	167 3:9	229 3:19	40 12:6 183:24
259:20 260:8	1990s 214:13	24 65:25 279:23	40s 141:16,17
262:25 271:12	1993 164:16	25 32:15,25	204:12
0	2	33:6,12	43 141:22
000183 167:25	2 3:5 79:7 264:6	25,000 28:4	45 11:25
05 100:17,18	264:7,8,19	253 2:17	46 204:11,24
103:20	2.2 169:22	2555 2:7	477 182:10
08002 2:11	20 12:6 13:14	27 66:2	183:24 184:25
1	31:3 141:19	278 2:18	486 186:2
1 3:3 14:16 78:1	152:20 160:5	3	4b 97:8,15
78:4 264:6,7,8	171:17	3 2:11 3:6 84:24	4c 87:15 89:14
264:19	2000s 214:12	85:2 264:3,3	90:18,19,21
1.15. 35:5	2011 268:16	265:4,7,9	92:22
1.2 169:21	2012 48:22,24	3.5 33:17	4e 90:6
1.5 36:23 37:6	48:25 49:2,3	3.7 33:17	4f 94:1,10
37:13 164:22	2018 102:16,17	3/28/19 244:13	5
10 3:14 207:15	103:16	30 42:7 57:2	5 3:8 147:21
	2019 85:21	140:13,16	149:9 167:20
	100:8,10	151:2	167:22 177:23

[5 - action]

Page 2

192:21 206:22 207:19,24 210:8 226:21 268:11 50 11:25 82:12 154:22,23 169:2,11,22 50.0001 169:13 500 89:18 501 169:17,17 50s 141:15 171:25 5:12 1:13 278:25 279:12 5h 95:21	8 8 3:12 207:9,11 207:13,25 237:11 80 13:14 30:14 31:2 127:14 80s 204:16 251:19 252:2 816.474.6550 2:8 85 3:6 856.317.7180 2:12 87 204:14 8701 1:11 279:10	80:25 82:4,7 83:1 89:14 94:18 103:6,13 120:3 126:25 136:16 165:12 180:20 196:18 221:8 222:20 268:21 269:11 269:12 abnormal 107:22 above 32:12 34:16 82:5 85:7 229:25 abrasion 84:22 84:22 abrasions 195:10 absence 157:7 192:22 216:21 absolutely 52:18 56:14 89:1 abstract 86:18 accelerate 21:17 accept 101:22 acceptable 99:23 accepted 88:16 88:18 95:19 124:20 136:14 137:11 access 23:14 accessible 45:3 254:13	accidental 200:18,22 accidentally 200:25 accommodati... 177:5 account 32:21 33:10 accounting 32:24 accumulated 177:24 274:11 accumulating 108:4 accumulations 134:16 accurate 78:7 78:10 79:10 89:2 94:18 102:1 103:22 209:23 280:8 accurately 160:18 acidic 167:6 acknowledge 36:8 acquire 155:17 acquired 143:16 144:5,5 144:9 185:6 200:21 acquires 108:1 acquiring 22:24 211:12 action 279:17
6	9 9 3:13 182:1 188:6 207:15 207:25 208:2 90 30:23 95 137:6 261:19 99 127:11 137:6		
6 3:10 155:7 207:6,7,25 208:5 60 261:19 64108 2:7 65 141:11,21	a a.m. 1:13 279:12 abdomen 250:1 abdominal 60:18 ability 22:13 46:2 109:15 187:25 able 7:4 21:16 45:24,24 77:16		
7			
7 3:11 156:10 180:25 195:18 207:8,25 211:17 251:15 70 30:1,16,18 127:16,18 70s 204:12,15 75 30:14 78 3:4 79 3:5 7d 96:10,15 97:4			

[activin - agree]

Page 3

activin 66:24 activity 52:24 52:25 53:1 actual 105:1 actually 9:4,9 10:16,24 21:15 25:25 30:20 33:17 40:11 42:15 45:11 46:3 48:7 51:14 54:3 56:15 57:5 74:4 77:25 83:15 85:4 88:16 91:15,16 92:4 101:8 103:25 111:20 119:6 123:17 126:21 128:17 133:23 135:22 136:12 139:15 140:15,15 147:21 156:7 159:8 164:7 180:5 188:2 209:18,23 214:12 227:4 237:8,21 256:16 acute 69:9 151:14,15,17 153:16,21 239:10,14,18 add 257:2 addition 5:15 44:22 58:17	additional 135:17 183:18 address 102:5 130:15 adenine 19:23 20:1 adenocarcino... 167:2,5 172:14 226:18,23 227:16 234:3,8 234:11 244:15 adenocarcino... 14:15,23 15:1 adenoma 14:21 adept 162:8 adequate 78:8 78:16 185:23 adequately 55:2 70:25 78:20,21 138:24 220:21 adhesions 61:11,12 107:7 107:9 219:18 adipose 107:1,2 adjacent 98:17 administer 29:19 administering 29:20 administration 63:18 administrativ... 9:25 administrators 63:6	admit 146:19 adult 250:21 advanced 136:10 advantage 20:20 43:13 advantages 23:23 adverse 74:22 adversely 74:19 advise 63:18 affect 23:5 67:21 73:19 74:17,19 affected 74:8 affects 22:13,14 affiliated 131:10 affixed 279:19 afternoon 253:13,14 age 141:9,10,21 141:22 143:16 171:16,18,23 204:11,14,24 218:19,21 219:3 241:25 261:19 269:19 agencies 74:24 agency 75:3 aggregate 238:21 aggregated 96:23 aggregates 220:6 221:9	aggressive 135:11 ago 6:14 14:8 29:8 42:7 44:18 48:20,23 51:14 57:2 73:2 108:12,15 162:15 164:11 165:5 171:14 189:10 233:11 agree 23:6 26:2 36:9 42:5,10,18 50:21 54:6,13 55:14 56:3 68:6 69:16 70:11,19 70:24 74:23 79:10 81:5,22 84:2 88:2,15 89:25 90:6 91:8 91:14 96:4 97:15 98:9 99:10 109:9 111:19,23 113:6 114:24 117:21,23 139:1 144:16 144:19 145:1,4 145:13,16 149:14 152:24 170:18 171:17 175:18 185:13 187:24 188:18 191:23 192:4 199:12 206:2,4 206:7,8,12 218:2,4,7,11,15
---	---	--	---

[agree - applied]

Page 4

<p>218:16,20 225:20,24 226:3,5,8,11,13 226:16 227:18 247:1,3 agreeable 46:7 agreed 13:11 193:1,6 ahead 30:16 109:22 114:16 222:5 227:22 239:23 air 45:4 128:18 128:19 al 2:3 alaghehbandan 230:4 alcohol 159:11 159:12 aligned 96:16 allele 28:25 alleles 28:25 allen 2:2 allow 77:2 80:11 109:16 109:20,22 110:12,13 159:14 allowed 23:24 95:19 allows 138:24 alter 23:13 123:24 135:24 alterations 65:25</p>	<p>alternative 86:6 100:7 alters 25:1 amended 228:22 american 41:16 85:21 95:5 amount 19:20 30:11 57:22 68:21 74:19 76:23 121:13 121:14 151:11 151:24 160:19 257:7 263:4 amounts 57:12 72:15 74:18,21 76:21 263:24 analyses 40:7 40:11,18,19,24 41:2 analysis 126:11 182:8 253:20 254:6 analyzed 186:3 188:17 anatomic 3:3 9:24 10:7,8,13 10:14 78:5 99:22 128:5 anatomical 10:18,23 264:1 264:4,8,9,12,18 anatomically 77:22 128:6 235:10</p>	<p>anatomy 79:10 ancestry 205:19 anecdotally 240:23 animal 24:19 111:13 200:13 200:15 260:21 animals 23:11 23:22 25:3,9 anita 1:14 279:3,22 annual 15:17 63:20 160:8 anomalies 107:18 answer 4:22 12:11 22:6 30:2 47:9,11 55:20 76:9 82:23 83:16 95:24 96:14 112:23 153:2 154:19 155:4 184:4 215:24 216:15 216:24 227:21 243:20 244:10 answer's 217:4 answered 154:13 answers 4:25 anterior 264:23 anticipate 176:22 antioncogenes 21:13,22</p>	<p>antiquated 170:16 anybody 55:20 60:9 142:1 154:17 224:10 236:22 anymore 233:8 anyway 87:21 111:5 114:5 146:10 164:22 207:13 aorta 194:12 apart 47:9 235:10 apologize 229:1 apoptosis 22:14 appear 96:17 96:23 240:10 264:21 appearance 106:20,21 134:17 199:5 210:18 211:24 241:18 appearing 2:5,9 2:13 appendixes 207:12 application 157:17 applications 13:25 applied 75:15 76:18 77:9 266:3</p>
--	--	--	--

[apply - associated]

Page 5

apply 4:11 30:5 131:3 266:1	257:25 261:15	120:2,13,18,18	260:24 262:5
appreciate 35:9 59:2	armed 255:21	120:23 121:2,8	264:1,7 265:4
appreciated 226:24 232:16	arose 210:11,14 210:25 233:13	121:11,22	267:24 268:5
approach 46:22 47:2 76:6	234:15,20	122:1,6,10,14	268:18 270:1
approached 46:16 51:22	235:12 248:25	123:2,23,25	270:12,16
62:25	251:16	124:13,16,21	271:10,11,14
appropriate 99:18	arrests 113:17	124:25 125:3,9	271:17,19
approximately 32:21 33:8,10	arrive 70:17	125:13,23	272:3 273:2,9
256:22	arrow 208:21	126:6 128:7,11	273:13 274:19
area 10:12 70:14 73:20	208:25 209:14	131:3,4 151:8	274:20,23
75:15 88:25	arrows 208:13	151:11 262:7	275:12 276:12
89:19 94:4	210:3	262:13,20,25	276:13,18
110:16 208:8	arsenic 73:18	263:4,9,17,24	277:2
210:7 211:7,11	art 181:6	268:6,14,19,20	asking 103:17
235:8	artery 194:11	268:24,25	127:21 140:3
areas 14:1 42:6 58:9 118:14,14	194:18	269:2,3,15,16	152:6 156:2
118:15 206:23	article 41:10	ascertain 247:15	163:17
207:20 220:5	122:19 126:22	ascites 57:22	aspects 142:5
253:15	articles 13:24	ashkenazi 204:23 205:19	aspiration 9:15
argue 101:23	193:15	206:14	assays 180:5
arguing 101:25	articulated 214:4	aside 18:18	assess 224:24
arid 107:20	artifact 237:16	asked 7:2 35:10 41:4 82:15	assessing 86:24
arises 233:7 235:4	asbestos 72:6,8 72:10,15,17	132:17 133:1	assessment 34:15 36:22
arising 213:16 219:9 227:11	73:10 74:11,14	139:18 154:12	associated 14:13 37:7
232:7 257:20	74:25 75:4,6,7	163:21 191:3	38:20 59:17
	75:13,21 76:2	197:10 203:16	61:4 86:19
	76:11,14 77:9	215:14,20	107:23 117:18
	77:13,15,18,19	216:7 223:23	143:19 148:1
	117:3,5,9,13,16	224:22 231:11	158:15 189:1
	117:18,21,25	243:9 251:13	190:4 192:23
	118:3,18,20,24	253:18 255:18	194:23 197:21
	119:3,7,23,23	257:9 258:14	199:8 200:2
		259:2,9,15	213:3 221:16
			221:25 223:2

[associated - background]

Page 6

238:9,17 239:3 239:4 240:10 261:11 272:9 277:12 associating 32:23 247:10 association 17:19 34:5,10 34:12 35:1,13 35:15,22 36:4 36:13,15 37:18 37:23 38:8 39:7 43:7 51:6 70:8 156:14,19 173:15 181:3 181:23 197:8 235:7 236:17 associations 15:19 34:16,17 34:19,25 36:11 42:22 173:21 233:3 assume 44:19 113:12 162:23 assuming 30:18 139:16 assumption 76:5 233:13 assumptions 186:14 200:14 astronomically 29:22 atlantic 189:22 atmosphere 74:7	atoms 103:7 attach 25:13,25 45:25 attached 3:20 49:24 280:11 attempt 57:19 155:12 252:8 attendants 74:5 attention 87:15 attorney 49:15 279:14,16 attorneys 5:14 5:17,20 6:14 44:8 47:7 49:15 184:7 attract 54:10 54:12 105:14 105:18,21,24 212:4 240:25 241:1 attracted 56:13 124:15 240:7 240:14 attributed 173:17 atypia 273:24 aunt 173:23,24 204:11 217:25 225:19 245:13 245:14,23 246:7,12,24 247:4 aunt's 247:24 248:13 aunts 245:24	author 21:3 65:22 268:2 authored 5:24 44:9,10 authoritative 115:1,5 authorities 260:19 268:13 268:15 274:15 274:17 authors 87:16 92:21 93:14 94:3 95:18,22 96:4,11,22 101:1 179:3 193:16 196:16 196:18 197:2 265:10,19 266:14,18 267:12,16 275:7 autopsies 13:12 13:14 autopsy 10:14 10:17 11:9,10 11:22 153:11 available 16:11 16:12 42:12 126:22 127:9 248:19 251:9 average 160:4 256:25 aware 8:21 61:24 63:7,10 108:14 110:5,6 122:13,20	161:7 205:23 225:25 236:18 259:20 260:2 268:4 273:18 awareness 172:12 b b 3:1 7:8 65:7 89:20 167:3,12 167:13 168:3 b18 232:20,21 242:8 baby 71:21,24 72:6 73:10 75:20 76:11 100:14 101:9 101:14,19 104:17,19,22 105:3,3,5 137:17 141:2 204:4 213:18 217:10 225:10 262:14,20,25 263:3 270:7,21 271:21 272:2,7 back 9:1 43:15 49:2,7 52:2 89:10,18,21 94:5 97:22 99:19 207:5,13 207:19 214:25 273:6 background 75:7 226:24 227:2,20
--	---	---	--

[background - biology's]

Page 7

232:21,25 233:6 251:5,17 backscatter 186:4 backscattered 96:12 bacon 2:6 bacteria 110:9 110:10,20,24 111:2,7 240:5 bad 40:15 balderrama 3:11 4:18 8:18 45:10 165:16 171:7 178:11 189:1,7,11 190:1 207:9 258:7 273:9 274:17 balderrama's 165:24 172:1 176:10 182:11 190:5 274:2 barrier 110:2 base 19:22 20:12,14 40:10 74:12 75:7 274:1 based 22:22 59:3 67:19 71:21 86:25 105:5 140:23 141:2 216:10 217:2 236:13 249:1 251:18 260:19	bases 273:15 basic 13:16 basically 17:17 19:18,24 26:11 29:20 40:13 45:7 98:13 159:23 161:15 165:9 248:3 255:17,18 basing 122:18 174:17,20 basis 9:17 10:25 62:21 116:6 133:21 254:8,25 256:11,23 261:22 273:10 bates 167:24 bathroom 229:1 bear 46:5 beasley 2:2 beasleyallen.... 2:4 beautifully 21:3 becoming 211:10 beg 278:15 began 51:12 142:17 210:10 210:24 beginning 43:3 behalf 2:5,9,13 48:4	behave 174:23 178:14 179:2 179:11 behaved 179:8 behavior 178:25 belief 260:8 believe 4:11 14:10 23:21 26:23 35:14 39:20 51:13 69:18,22,24,25 70:5 74:20 78:5 106:10 107:20 112:15,23 114:2 126:10 133:18 141:6 147:5 149:17 149:19 165:4 165:11 172:19 183:15 195:24 196:9 202:13 206:16 208:21 208:25 219:4 220:16 223:10 225:2 230:10 236:1 244:3 245:2 248:5 262:10 263:22 believed 122:24 believer 138:23 believes 142:22 belong 106:6 107:5 beneath 65:24	benjamin 13:18 best 11:15 23:10 47:16 48:3 79:20 95:11 160:20 189:5 210:7 214:22 225:8 226:24 230:7 232:16 261:15 bet 36:5 betsy 7:8 better 41:2 178:15 179:8 188:1,20 257:18 beyond 26:3,6 277:4 big 6:3 55:4 219:21 bilateral 226:18 billed 8:15 162:24 binders 6:3 44:5,15 biologic 37:16 86:24 biological 110:21 biologically 23:18 biologist 25:17 biology 35:7,8 58:3 66:14 174:24 biology's 88:9
--	---	--	---

[biopsy - brandi]

Page 8

biopsy 41:20 172:5 244:7,13 249:8 255:20 255:21	blinded 40:1 bloat 80:9 block 121:15,18 121:19	98:4,25 99:1,14 106:6 108:13 111:23 118:9 118:10,17,22 119:3,21 122:11 125:17 140:23 148:3 150:18 151:20 153:22 157:7 157:15 158:16 185:3,11 192:23,24 193:14,17,18 197:18 198:5 199:8 200:3 212:6 216:10 217:2 221:17 221:23,25 222:11,16,19 222:20 223:2 238:9 258:16 258:22 259:13 259:21,22 260:9 261:24 262:2 267:12 267:14,17 272:9 278:12	book 45:4 115:8 borderline 134:4,6,22,24 135:6,10,19,20 136:11 141:10 143:5 145:3,8 145:20 146:1 146:16 165:4 borderlines 134:13 135:5 135:16 bothered 236:23 bottle 75:20 76:11 bottom 155:7 167:10,12 188:6 208:19 209:7 238:16 244:12 boulevard 2:7 bounced 129:15 box 184:14,15 184:17,19 braf 143:9 brain 14:3 branch 194:12 branches 10:8 branching 134:11 brand 262:17 brandi 3:10 131:25 132:12 207:6
biorepository 13:13 birefringence 278:14 birefringent 119:9 182:7,14 182:24 187:2 187:18 195:5 197:13 198:10 199:2 222:24 238:6 239:2 266:25 278:17 birth 162:12 bit 29:5 48:23 51:2 57:12 80:1 89:5 116:25 129:16 243:24 black 118:12 bladder 74:10 194:15 218:1 250:5 blasted 74:3 blaustein's 114:24 115:16 116:11 blebs 152:17 153:5 bleeding 27:18 80:1 bleeds 105:22 blind 39:21 40:20	blocks 83:23 138:4,8,13,17 138:19,22 139:5,8,10,17 139:19 190:4 202:5,7 213:24 214:1 223:15 223:17 242:2,5 251:9 blood 10:11 24:19 58:9 80:2 212:2 220:24 blows 104:7 board 138:13 255:1,7 boards 64:23 255:1 bob 47:14,15,16 bodies 53:17 75:5 118:19 119:2,5,9,12 120:14 125:13 128:25 body 24:13 51:10,15 52:1 52:22,23 53:8 53:16 54:16,17 55:13,22 56:4 61:22,24 62:10 71:5,14 74:16 78:14 80:7,8,12 80:14 82:22	bondurant 3:16 4:19 207:17 242:24 247:18 252:24 bondurant's 243:9,14,18 246:23 247:6 248:24	

[brca - cancer]

Page 9

brca 28:22,22 30:23 31:1 35:1 brca1 18:11 21:9,12 31:7 32:18,21 33:4 33:10 brca2 18:11 21:9,12 31:7 32:18,21 33:5 33:10 break 18:17 60:10,12,14 116:17,20,21 116:23 163:8 163:11 172:9 203:1 207:4 224:10 229:2 253:6,8 277:24 breast 74:5 143:17,22 173:25 196:2 204:10,24,25 205:7 217:25 245:13,23 250:9 breasts 66:4 bridge 46:8 brief 32:12 217:23 briefly 38:22 254:9 bring 44:22 48:15 202:2 224:7 242:22 253:4	brings 50:8 broadly 191:15 bronchus 128:18 brother 225:19 245:16,17 brought 44:4 brown 93:16 bugger 173:20 bunch 40:24 bundles 125:1 business 161:12 c c 2:1 9:15 90:16 94:7 143:3 195:20 244:23 calcification 186:21,24 calcium 185:18 185:20 187:17 187:23 calculated 123:1 call 18:14 22:10 210:19 254:19 called 4:2 14:15 14:21 19:25 20:5,20 21:4 22:19 27:22 53:4 57:3 59:16 85:15 119:5 135:14 161:10 243:23,25 254:14	calling 43:25 230:15 calls 37:11 75:24 156:22 169:23 196:20 camp 142:22 champion 102:16,17 103:16 campus 2:11 cancer 10:21 12:4,10 13:1,5 13:7 14:6,9,11 14:13,15 15:8 15:15,18,19,22 16:22 17:2,9,13 17:17,19 18:2,5 18:13,20,24 19:2,5,7,8 20:25 21:1,21 22:25,25 25:20 25:23 26:18,22 27:8 28:16,18 30:1,6 31:6 32:16,17,23 33:2,4,7 36:10 37:21,24 38:7,8 39:6 41:25 42:17 46:17 51:7,21 52:9 56:13,16,22 57:2 58:14,18 60:23 61:18,21 62:10,18 64:8 64:22 65:2,8 66:22,25 67:3,6	67:8,19,22 68:3 68:7 69:4 70:7 70:9,13 74:6,9 107:23 113:4,5 113:7 114:10 117:6,10,18 121:22,25 122:10,14 123:3 126:7,9 126:18 127:5 133:6,8 143:17 143:18,20,22 144:14,16,18 144:22 145:5 145:15 154:11 155:9,10,14,18 156:6,15,18,20 157:1 164:15 164:20 165:25 166:5,6,10 169:6,8 171:8,9 172:11,14 173:10,19,24 173:25 174:2 174:13 176:5 176:11 178:3 179:9,13 180:11,25 185:16 186:21 186:25 191:7 192:7,10,13 196:2 197:9 200:12,17 202:10,13,15 202:20 203:21 204:9,10,13,15
--	---	--	---

[cancer - carl]

Page 10

204:22,24,25	cancerous	65:9 69:20	carcinomas
205:4,7,10,14	28:16	124:4 143:5	66:3 122:7
205:20 206:11	cancers 14:14	222:13	127:6,11,18
206:14 210:11	14:17,25 17:1	carcinogenic	141:11 142:7
210:14,25	18:22 21:19	25:24 73:17	142:17,23
215:23 216:13	22:24 23:2	74:4 123:2	169:25 170:1,9
216:14 217:14	28:22 29:8 30:9	125:24 200:20	170:10 171:19
217:25 218:2,6	30:14,18 31:5	carcinoma 15:5	171:24 178:16
218:14 219:1	31:12 33:19	29:23 61:4	205:13,15,18
220:8,19	37:17 63:1	86:20,22	226:22 231:16
223:10 224:23	67:12 112:17	107:14,16,20	233:4,5 235:24
225:2,20,23	127:14 143:14	108:6,8 127:1	236:18,19
226:10,15	143:14 144:3,4	127:13,23	237:1 244:5,5
241:24 243:15	144:17,21	141:20,22	245:3,7,8,21
244:17 245:13	170:21,22,25	142:2,15 172:8	246:19 247:7
245:13,15,17	174:1 181:4,23	172:21 191:21	247:11,13,14
245:18,22,23	205:2 218:3,5	192:18 204:20	247:23 248:5,6
245:25 246:6	225:21 245:20	205:1,8 208:7	248:15 249:2
246:12,23	246:11 248:12	210:10,19,24	251:2 257:20
247:2,2,5,12,19	261:11,15	211:4 213:4,9	276:10
247:24 248:4	276:5	213:14 217:16	carcinomatosis
254:5,15,17	capability 88:2	218:18 219:9	57:23
256:1,11,13,15	131:11	221:15 223:8	care 9:8 18:6
256:22 257:4	capable 232:12	225:14 229:17	136:7
257:11,15,16	captioned	229:20 230:16	career 119:12
257:17 258:6,8	280:6	231:11 234:14	256:2
258:11 259:4	carbon 111:20	234:15 235:11	careful 197:3
259:18 260:3	186:6,11,12	236:5 243:23	carefully 56:25
260:10,11,19	187:20	244:1,8,25	caring 9:4
261:1,19 266:8	carbonaceous	246:10,13,18	caris 11:14
268:7,15	186:3 187:20	247:10 248:1	carl 3:7,10 4:18
273:19,25	carcino 57:23	248:25 249:17	6:22 7:13 8:2
274:14 275:14	carcinogen	251:16 255:11	8:19 85:10,12
275:23 277:2	117:22	258:4 273:11	131:25 132:12
277:13,20	carcinogenesis	273:23 276:5	133:19 160:20
	26:9 27:8 33:23		163:14 207:6

[carl - causing]

Page 11

268:9	215:6,13,24	272:21 275:18	176:11 196:25
carl's 133:2,5,7	216:14 217:12	276:24	208:19 209:3
133:12,19	221:6 223:12	castration	225:22 227:15
137:16,25	223:21,24	252:10	234:19 241:23
144:12,13,17	224:6,14,21	casual 64:4	244:24 245:20
145:19 146:15	225:11 230:15	catch 27:15	246:14 252:4
147:24 148:6	242:14,18	categories 42:4	257:14,16
160:17	243:1,5,8	categorize	259:11 260:3
carries 115:5	251:10 252:21	57:13,18,20	260:18 268:7
carry 31:7	252:24 254:19	causal 34:6,12	268:14 272:13
32:16 33:4,7	255:13 271:13	36:14,18 38:3	275:13
39:3 178:15	271:22,23	200:14	caused 18:1
case 4:13,14,23	276:6,8,13	causation	21:19 33:19
4:24 6:17,21,22	cases 4:12,17	275:18	60:17 81:20
6:22 8:3,20	4:17 7:1,1,4,13	cause 14:10,12	117:15 121:22
11:15 12:4,6	7:18,22 8:16	15:5 18:5,12,21	126:7 155:11
19:23 42:16,18	10:1 11:5,12,24	19:1,8 20:25	202:10,16
43:2,6,13,17	11:25 12:11	21:15 22:4 23:2	223:7 234:13
45:9,10,16	50:23 52:6 57:1	23:19 25:14,25	234:18 245:3,4
48:22,24 57:10	57:21 58:4 87:4	26:14 33:22	causes 15:15
64:7 81:4 85:17	117:2 131:21	34:2,9 36:9	18:20 19:5
127:7 132:16	138:14,18	37:15,16,20	25:22 26:15,16
132:25 138:5,8	140:7 141:3,6	38:2 43:25 52:8	26:17,17,24
160:17,20	153:11 154:20	52:14 53:3	28:9 37:21
164:15,20	162:10,24	60:22 61:6,10	54:23 65:1 66:9
165:2,15,18,22	165:12 180:16	61:10,13,18,21	67:7,9 68:15
177:4 178:9,10	183:17 190:13	62:10,18 63:1	69:4 106:10
180:13,22	201:24 227:9	67:6,18,22 68:7	107:6,9 117:19
181:2 189:1,1,3	233:11 254:25	68:21 69:19	123:3,6,23
190:1,5,20	256:23 257:10	79:25 89:11	143:10 151:19
191:2 197:11	259:7 260:17	117:6,9 122:7	151:20 155:17
198:8 201:17	263:2 265:13	122:10,14	155:19 257:11
201:19 202:22	265:21 266:7	123:18 125:3	causing 28:10
203:8,15 204:5	266:23 267:20	142:7 151:17	38:7 106:6
204:23 213:19	270:5 271:11	155:14 157:14	108:13 123:21
213:21,24	271:20 272:16	164:11 176:5	200:12

[cavity - chemotherapy]

Page 12

cavity 109:25 110:24,25 129:3 264:19 ceased 9:17 cell 19:11,16,17 19:18 20:12,15 20:16,20,22,24 20:25 21:23 22:5 23:10,21 24:12,16,23 25:2,17 26:14 26:23 28:15 53:1,9,11 56:16 56:18,20 58:7 68:15 69:1,19 96:24 105:15 123:6,9,18,19 123:21 125:3 125:20 155:16 180:4 200:11 200:16 201:11 204:20 205:1,8 205:10,13,15 208:7 210:10 210:19,24 211:4 213:4,9 213:14 233:5 238:8 239:20 239:25 243:24 243:25 244:4,5 244:5,8,15,24 245:2,7,20 246:19 247:6 247:11,13,22 247:25 248:5 248:14,25	249:2,17 250:19 251:1 251:16 255:10 257:5,7,19 258:3 260:21 276:4,9 cells 19:19 24:18,21,21 26:12,15 28:10 29:4 37:25 53:6 54:17 56:7,13 56:18 97:9 105:10 106:13 113:20 114:11 122:2,3 123:15 123:16,20,22 124:7,14,15,18 125:7,9 134:15 143:7 150:11 159:13 173:2 178:5,18 179:5 179:19,25 185:16 188:16 192:24 202:17 202:18 211:10 211:11,11,14 220:8,19,23 237:2,4,7,9 238:21,25 239:8,10,14,19 251:20 252:16 267:17 cellular 123:10 188:1 center 3:9 167:23	certain 37:17 47:12 110:12 116:15 150:16 209:1 212:5 257:15 261:1 261:13 263:22 certainly 35:14 45:3 77:24 142:2 200:24 259:19 certainty 36:7 168:18 195:16 261:20 certify 279:5,9 279:13 cervical 13:1,5 13:7 14:9,10,12 14:14,15,16 15:7 21:21,23 41:16 58:6 110:2 113:4 250:16 cervix 77:13 87:12 111:4,7 169:5 175:20 175:21 194:24 233:18 249:20 250:14 cervixes 77:4 chain 163:14 164:1,10 190:9 194:12 201:22 201:24 224:5 242:21 253:2 challenge 131:7	challenging 131:4 270:2,5 270:18,23 chance 28:14 176:21 177:19 change 13:4 75:14 135:8 155:16 211:13 changed 14:22 130:9,12 160:6 217:8 changes 280:9 280:12 channels 129:9 characteristic 89:24 94:8 characterize 35:16,21 characterized 261:24 chased 35:3 check 31:16 cheek 79:21 chemical 125:23 181:25 188:8 252:9 chemicals 181:22 chemo 57:4 137:1 chemotherapy 57:4,7,11,20 58:5,23,24 136:12 137:7 220:15
--	---	---	--

[cherry - college]

Page 13

cherry 2:11	100:8 102:1,14	248:5,11,14,25	154:18,18
chest 128:13,14	102:16 103:16	249:2,17 251:1	162:17 212:10
128:22	156:16 197:1	251:16,20	closely 47:14
chief 9:24 10:5	260:19 274:15	257:5,7,19	53:7
10:7,23 95:10	cited 99:24	258:3 265:1	closest 13:17
children 145:7	196:8	276:4,9	cluster 240:24
chodash 25:15	cites 146:9	cleared 211:12	clustered
25:16,16	city 2:7 189:22	211:15,16	240:12
chromium	claim 28:19	clearly 97:9	clustering
73:18	34:6 83:23	155:20 213:14	240:20
chromosome	claimed 238:17	228:17 239:6	coffee 122:24
65:17	clarify 199:18	clients 5:10	cohort 43:8,13
chronic 60:21	clarke 176:24	46:6	43:17 70:16
61:6,15 68:2,6	195:19,20	clinic 37:19	156:13,18
68:11,13,14,15	clarks 38:17	clinical 10:8,9	197:7
68:18,19 69:8,9	classification	13:6,7 15:7	coincidence
69:11,18 71:2,6	168:19	27:1 32:12	241:4
71:12,14	classify 169:7	85:21 95:6	coincidental
151:15,16	203:17	135:2,18 156:8	155:9 240:21
153:16 238:17	classifying 66:8	191:19 193:25	cold 255:20,21
chrysotile	66:12 127:19	217:23 244:11	colitis 261:16
75:21	clear 8:15 38:8	273:15,21	collaborating
cip1 66:2	130:16 156:4	clinically 76:20	13:16
circle 208:10,18	176:7 180:10	76:23 82:19	collaboration
209:11,13	204:19 205:1,8	157:12,13,19	13:17
211:5	205:10,13,15	178:14	collagen 146:24
circled 208:4,7	208:7 210:10	clinician 255:4	colleague 9:25
209:20 210:15	210:19,22,23	255:7	26:7 65:6
circles 199:18	211:4 213:4,9	clinicians 146:5	colleagues 64:1
circulation	213:14 231:14	clinics 256:17	64:18 139:18
28:6 29:21	233:4 243:24	clonal 178:1,5,6	157:9 193:10
circumstances	243:25 244:4,4	179:1,2 214:14	college 1:10
256:3	244:5,8,15,24	214:14 274:13	9:12 15:17 63:7
cite 83:15 85:3	245:2,7,20	cloning 26:10	63:13 131:9
85:4,22,25	246:19 247:6	close 95:9 101:2	160:24 253:24
86:14 99:25	247:13,22,25	101:3,7,8 108:8	

[colon - considered]

Page 14

colon 22:25 261:15,18 colonic 261:17 colored 79:1 211:20 colposcopy 41:16,21 come 11:6 46:8 55:11 62:1 64:22 80:7 89:10 99:19 116:14 177:5 207:13 212:10 256:17 271:2 comes 11:1 27:15 256:15 coming 53:21 271:5 commencing 279:11 comment 31:17 42:11 97:23 176:23 214:3 223:19 229:16 229:24 230:3,4 230:11 231:3,6 242:7 269:11 269:12 276:14 276:21 commented 176:23 commenting 187:9 comments 187:12,13 255:7	commerce 2:3 commercial 37:8 159:16 commission 279:23 committee 41:18 committing 168:5 common 19:1,8 20:25 23:1,1 52:12 152:16 157:10 194:13 194:17 195:1 198:3 246:12 247:1 254:23 communicati... 47:9 community 59:12 126:24 companies 47:25 48:12,18 company 47:21 49:10,12 63:19 compare 75:6 compared 101:17 103:19 comparing 101:19 comparison 102:18 103:18 completely 26:18 47:12 71:21 92:17 116:14 239:25 255:18 277:21	complex 107:17 269:24 273:16 273:22,24 components 198:22 composed 205:15 composition 89:4 125:23 186:24 187:14 188:8 212:2 compositiona... 182:8 comprehensive 115:19 116:11 computer 45:4 45:19 91:17 208:5 conclude 61:17 concluded 278:25 concluding 279:12 conclusion 62:1 62:18 70:17 171:12 174:17 273:10 conclusions 98:21 259:16 270:6,19 condition 106:4 118:3 174:9 252:9 269:14 conditions 46:6 59:17 117:25 138:25 192:16	276:15 condom 108:14 108:21 condoms 108:15,22,24 108:25 conducted 62:17 confess 114:22 confident 46:12 confirm 8:5 115:9 165:14 232:9 confirmed 147:25 196:1 214:16 conflict 63:20 confused 4:15 confuses 15:2 conglomeration 53:20 conservative 100:18 consider 18:19 116:8 117:12 117:14 129:19 129:22 130:2 199:22 277:2 considerable 25:25 considerations 174:15 considered 214:7 229:21 276:25
---	---	--	---

[considering - correct]

Page 15

considering 181:8	contains 118:13 132:19 159:16	225:1,21 227:15 234:19	copper 136:8 136:23
consistent 160:3 182:9,10 198:23 199:1 199:11 238:10 244:15 273:22	208:8 229:16 contaminant 184:2 193:2 238:10	241:23 243:12 246:13 248:14	copy 3:18 19:17 100:12 164:6 184:18 201:21 208:1 224:4 228:9,14,24 229:4,15 253:2
constant 22:9 261:5,5,8	contaminants 98:14 185:1,9	contributing 145:19	copying 19:20
constantly 74:13 261:17	contaminate 184:1	contributions 47:23	core 244:6,7 249:8
constitute 247:13	contaminated 121:8 159:15	control 42:16 42:19 43:2,6,17 164:15,20 165:2 181:2	corner 208:23
construction 269:14,23	contamination 86:5 100:6 112:10 120:17 120:21 158:19 159:2,7 193:14	convenient 5:25	corporate 49:17,20
consult 131:19	content 16:3	conversation 25:19 28:13 64:4 112:20 193:9	corporation 161:3,9,12,17 161:18,23
consulted 48:8	contents 75:20 76:10 188:1	converse 3:13 4:18 32:4 202:22 203:4 204:8,19 205:24 207:15 207:19 210:10 214:18,25 215:3	corporations 48:3
consulting 63:11	context 25:22		corpus 87:12 159:9
contact 220:2	continue 20:24		correct 7:14 8:24 12:10 15:12 29:15 34:25 43:12 49:23 54:16 55:6 56:9 64:11 68:11 69:13 80:24 81:2 95:3 96:3 111:12 112:11 114:7 118:21 119:8 123:16,21 129:24,25 130:3,19,24 135:1 136:4
contacted 259:16,19 260:7	continues 167:13 209:17		
contain 72:14 132:14 134:13 134:15 151:8 151:10 165:17 190:18 203:7 215:5 224:12 242:25 262:13	contraction 81:20		
contained 72:6 72:10 76:11 104:23 158:8 263:3,23	contradicts 228:10	converse's 203:17,20,21 203:25 204:4 206:23 207:21 208:7 213:1,18	
containing 262:20	contribute 117:5 145:15 176:4,11 244:24 245:20	coordinates 139:13,17	
	contributed 144:17 145:3 191:6 203:19 204:8 215:17	copies 3:21 8:5 163:14 164:1,3 184:24 190:9	

[correct - cutting]

Page 16

138:23 141:6	263:16,25	163:8 265:8	174:11,18,21
143:23 144:18	265:1,2 266:4	268:12	critical 20:16
144:22,23	266:20,21	course 4:13	cross 3:5,8
149:3,6 150:14	267:22,23	31:25 73:25	25:15 46:7
150:17 151:11	268:17 269:17	95:14 136:24	49:14,21 73:5
156:9 157:4	269:20,24,25	151:6 205:23	79:9,11 167:23
161:20 170:13	271:8,9 272:2	243:21 256:2	crossed 51:24
171:1,2,4,5,11	272:14,15,20	257:2 263:18	52:8
173:20 174:6	275:11 277:4,6	courses 39:9	ct 244:13
175:5,16 176:5	277:14 278:18	court 1:1	culture 23:21
176:6 177:18	corrections	189:15 190:17	24:12,16,23
179:23 185:12	280:9	cousin 204:12	25:2 69:2
190:2 192:8,14	correctly 71:17	cover 5:1 16:1	200:11,16
196:3 199:3	217:18	123:22	201:11
200:5,9 201:9	correlates	covers 5:8	cultures 23:10
201:20 206:1	134:17	128:21,22	curious 8:9
206:20,21	correlative	covid 13:10,10	current 25:21
218:9 223:6	85:18	13:11,14 15:8	27:7 101:5
224:3 226:19	corroborate	160:11	177:25 253:19
230:23 231:10	86:3 100:4	cramer 93:23	274:12
231:21,22,25	102:4 148:3	cramer's	currently 11:3
232:3,23	cosmetic	176:20,23	13:3 15:9 45:15
233:23,24	149:22 150:6	177:3,8,20	45:17 256:9,14
234:6,8,9	150:17,21,25	crazy 76:1	cursor 61:19
235:18,22	cosmic 74:3	create 20:14	cursorry 16:22
239:15 246:25	counsel 3:21	created 7:19,22	curtails 152:7
248:10,16,19	47:11 257:9	8:12,23 16:9	custody 163:15
248:20 249:3	259:17,19	123:20 189:25	164:1,10
250:22 251:22	260:7 271:12	201:19 224:1	190:10 201:22
253:25 254:1	279:14,16	258:16	201:24 224:5
257:22,23	counseling	credentialed	242:21 253:2
258:5,8,9,12,25	145:18	69:17	custom 184:16
259:1,7,8,23	countries 13:1	credibility 39:4	cut 79:5 83:19
260:12,15,22	county 279:2	criteria 168:20	255:19
262:14,21	couple 21:24	168:22 169:3	cutting 59:3
263:4,11,12,15	52:1 152:4	169:12 171:13	

[cv - dearing]

Page 17

cv 42:15 65:12 65:13 164:13 164:14,21 cyst 210:9 212:23 213:3 213:15 214:7,9 236:8 257:21 258:3 cystic 206:25 207:23 208:14 209:6 210:17 212:15 cytologist 9:14 cytology 41:24 253:21 254:7 cytoplasm 89:22 90:2 92:23 94:6 95:23 96:13,24 97:10 193:23 210:22 211:12 211:14,16 238:7 239:6 cytosine 19:23	123:17 125:4 125:20 274:11 damaged 22:12 26:24 damages 123:14 damaging 69:1 109:23 dark 79:1 118:12 data 44:18,20 85:7 139:12 177:24 183:1,4 183:9,10,13,19 184:10 195:23 196:19 205:17 274:9 275:3,3 275:10 277:10 277:15 database 196:4 196:10,11 date 46:3 143:16 230:20 dates 164:16 daubert 189:21 daughter 20:12 daughters 162:1,7,9 dave 93:23 david 2:2 66:17 176:19 david.dearing 2:4 day 9:7 10:24 10:24 11:6,8,18 11:24 15:20	74:7 82:13 130:13 279:20 280:14 days 15:21 44:18 231:1,4 dbalderramapl 167:25 dead 56:13,16 56:20 185:16 220:8 dealing 125:5 deals 258:22 dearing 2:2,17 2:18 4:6 7:15 7:20 8:2,6,9,13 8:14 17:3 19:3 23:3,16 24:7 25:5 26:21 29:13 31:18,25 32:2,6,14,19 33:25 34:8,21 36:6 37:4 38:4 38:18 39:8 42:14 43:5,14 43:24 45:23 46:9,12,14,23 46:25 47:18 48:13 51:3,19 52:19 53:18 54:1,24 55:9 56:2 60:1,8,13 60:15 61:1,8 62:15 63:5 66:18 67:25 69:6,23 70:10 70:18 71:9,16	72:4 73:15,24 75:9,18 76:7,16 78:12 79:6,8 80:20 81:13,21 83:7,18 84:13 84:25 87:25 88:10,20 89:6 90:10 91:2,24 92:7,12,19 93:19 94:23 95:4 96:9 97:1 97:11 98:6,22 99:16 100:24 101:12 102:8 102:25 103:10 104:2,16 105:20 108:20 109:13 111:18 112:5,13,19 113:25 114:8 114:19 115:11 116:16,22,24 117:11 121:1,6 121:17 122:16 124:6,24 128:4 129:14 130:14 130:21 131:2,8 132:1,4,8,11,13 133:15 139:7 142:20 146:6 150:2,20 151:5 151:12 152:22 153:6 154:2,14 155:6 156:24 157:5,22 160:14 163:2
d			
d 2:14 94:4 da 101:5,5,5,5 daily 9:17 116:5 254:8,25 261:22 damage 19:14 22:4 23:5,19 25:14 26:1 34:3 37:22 38:1 68:21 69:19			

[dearing - descriptions]

Page 18

163:12 164:3,9 164:12 167:21 170:8 175:1 177:6,10,14,15 181:17 186:9 187:15 188:24 189:19 196:15 196:23 198:2 200:6 201:6 202:25 203:2 207:1,5,8,18 216:4,23 222:7 222:17 226:7 229:3,9 230:24 235:15 240:22 242:11 246:16 247:21 253:5,9 257:9 259:25 260:4,13 262:6 262:15,22 263:5 265:14 265:24 266:9 267:7 268:8 270:8 277:5 278:3,22 dearing's 48:6 253:16 death 68:15 decade 141:14 decades 38:6,8 108:12,15 130:8,10 141:13 149:11 decide 278:6 deciliter 28:3,4	declaration 280:3 declare 280:4 deduction 236:22 deeper 255:17 defect 33:19 123:23 defendants 2:9 2:13 defense 44:8 47:15 176:17 177:9,10 defer 115:21 deficiencies 143:12 deficient 58:25 define 118:8 222:6 defines 169:13 definitely 228:19 241:13 definitive 206:24 207:21 definitively 87:22 94:13 97:3 166:17 178:5 degree 36:7 143:22,25 151:24 169:9 169:19,21 225:9 246:2,3 dehydrated 159:5,11	delicately 136:15 demonstrably 148:1 223:1,3 demonstrate 70:12 98:24,25 demonstrated 23:9,22 24:12 86:8 department 10:3,3 139:19 depend 118:18 151:24 269:19 269:22 dependent 118:23 252:21 depends 41:1 59:11 depicted 208:16 depiction 79:11 deposed 8:25 9:2,3 deposing 25:15 deposition 1:9 5:3,5,18,22 6:17 7:6 25:20 46:1 49:23 73:5 163:22 180:8 201:16 223:23 224:8 242:23 253:4 271:24 278:25 279:6,9 280:1,6,10 deposits 185:20 depth 38:24 62:6 187:25	255:11 276:19 derive 67:12 derived 14:18 31:13 161:16 236:6 250:24 derives 196:10 249:4 deriving 250:18 descent's 206:14 describe 87:16 151:13,18 182:23 219:11 219:24,25 238:3 239:16 244:20 249:25 254:9 261:1 described 109:5 147:7 172:6 174:11,18 describes 53:24 167:1,6 describing 125:20 167:3 237:7,8 238:20 250:23 description 3:2 53:24 103:12 166:24 168:3 228:10,20 229:15,24 230:3 264:12 264:18 272:2 descriptions 264:2,5
--	---	---	--

[design - differentiate]

Page 19

design 25:2	191:4 203:18	diagnosed 31:6	diana 165:15
designed 80:6	215:15 221:21	32:16 33:7	diaphragm
desktop 45:22	224:23 243:10	118:2,5 127:15	120:3 129:2
desmoplasia	277:11	133:8 165:25	dictate 54:8
146:22 147:1	determined	166:4,6,17	didactic 16:3
desmoplastic	100:17	171:16,18,24	die 22:14 55:1,7
146:18,20	determines	191:8,20	56:7 58:25
147:6,10,14	240:2	203:21 204:10	220:19
despite 42:19	determining	204:14 217:15	dies 20:16
157:9 198:3	18:4 100:19	217:18 225:3	55:15,24 56:18
destroy 222:16	277:1	225:18	differ 142:5
destroys 261:17	develop 108:7	diagnoses	241:17
destruction	113:4 142:13	165:11 169:1	difference
123:7,9 261:5,8	143:14 144:4	diagnosing	134:6 149:21
261:12	245:25 260:11	66:11 130:7	179:11 229:11
destructive	developed	256:12	229:14
69:5,7 260:25	175:10 210:10	diagnosis	differences
261:2	developing	136:22 168:4	149:25 150:3
detached	261:18 273:23	191:22,23	different 3:18
219:20	277:20	196:1 213:8	22:8 68:18
detail 188:15	development	216:8 228:11	78:14 89:20
detailed 43:19	65:18 112:16	229:25 254:17	91:17 94:4,4
188:20	143:20 145:20	256:1 276:1	103:8 104:10
detect 20:11	156:15,20	diagnostic	113:12 115:13
59:14,18 74:16	197:9 215:23	101:6 116:13	122:5 140:7
180:16 270:25	216:12 275:22	249:16	141:24,25
detectable	deviance	diagnostics	142:3,25 143:2
206:5	106:20	66:7	154:16 156:18
detected 76:2	deviation 14:22	diagram 3:3	169:20 174:23
176:2 186:4	101:5	78:5,7 79:7,17	178:25 226:12
detects 20:6	devitalized	219:13 240:25	228:18,18
determinations	56:10 193:19	diagrams 78:13	229:4,7,7
179:1	diagnose 12:4	264:8,9	230:15 276:2
determine 66:9	59:8 137:4,7	dialogue 97:23	differentiate
145:18 174:12	138:25 213:11	diameter 54:10	125:2 126:25
182:8 188:7	243:15 256:23	54:12	

[differently - doing]

Page 20

differently 51:12 135:7 136:2 167:14 179:3 228:19 differs 228:20 239:25 difficult 10:1 247:15 digestion 14:19 digitized 45:17 dilutions 159:11 dimension 158:8 dimensional 91:18,22 92:25 188:4,21 direct 37:22 65:15 87:14 99:23 175:13 220:1,2 direction 279:8 directly 21:9 188:18 227:11 279:17 director 10:16 disagree 75:10 75:12 91:3 98:20,20 102:9 122:22,23 133:11 134:2 137:14 142:21 191:11,16 203:24 217:19 225:5 243:17 244:11	disagreed 134:3 231:11 discern 18:21 100:15 discerning 34:9 disclose 47:7 disclosed 48:8 discloses 183:6 disclosure 63:21 discomfort 155:12 discovered 58:16 183:2 discuss 17:16 43:18 144:11 242:13 253:19 254:19,25 256:10 discussed 19:6 28:12 63:25 67:7 104:9 201:16 242:8 discusses 274:4 discussing 158:4 195:19 212:22 237:12 255:13 257:13 discussion 14:9 64:6 discussions 46:10 47:11 disease 12:12 43:9 70:7 152:13,25 154:15 173:14	278:9 diseases 58:15 dismissed 237:16 disparity 141:20,23 dispersive 87:19 displaced 106:13 disrupting 181:22,25 disruption 19:13 22:4 23:20 disrupts 21:10 disseminated 147:15 169:4 dissemination 178:17,21 179:12 220:3 distant 87:7 distinct 241:20 distinction 4:22 4:24 134:8 135:3,19,21 136:2,21 169:25 170:16 170:16 244:2 distinguish 126:16 170:2 251:1 distinguishes 239:17 distracted 216:2	district 1:1,2 divergence 194:17 divide 247:11 divides 19:16 dividing 169:10 division 19:12 dna 19:14,18 20:18 22:5,12 22:20 23:5,13 23:15,19 25:1 25:13,25 26:20 37:22 38:1 65:25 68:21 69:1 123:17,24 doctor 46:2 116:25 203:3 229:10 doctors 16:6 38:17 243:15 243:22 244:11 254:4 document 77:25 documented 87:4 documenting 86:23 documents 5:21 49:10,12 49:17,20 73:3,6 163:15 164:1 242:21 doing 9:7,15 11:12 15:8 40:20 63:18
--	---	---	---

[doing - elevated]

Page 21

114:5 120:12 125:19 163:1 165:9,10 168:5 178:5 188:12 255:5,8,21 256:11 265:11 265:19 dollars 162:17 dormant 252:3 252:8,13,15 double 39:21 40:20 130:22 doubling 35:16 35:18 doubt 240:16 download 44:20 45:4 dozen 233:15 dr 3:6 4:7 25:15 25:16,16 65:19 85:2,19 88:7 92:13 93:2,14 93:15,15,20,23 102:19 130:16 139:2,20 156:11 158:4 158:19 159:1 164:2 169:1 176:20,20,23 176:24,24 177:2,3,8,8,17 177:20 182:4 183:1,12 184:8 186:14 188:7 195:19 196:17 196:17 230:11	230:12 237:12 237:15 238:18 253:13 265:10 265:12,18,20 266:13,17,23 267:5,11,24 270:2,13,19,25 272:17 278:1 drain 194:20 drains 237:24 drawing 79:2 drinking 122:24 driving 22:3 dropbox 183:13 184:17,19 droplets 152:5 drugs 252:10 dubeau 65:7 dubeau's 65:19 duct 250:3,4,11 250:12 due 124:17 172:4 178:17 duly 4:3 dumb 42:13 dusted 109:2 154:25 201:14 dusting 108:11 108:14,18,22 200:8 dysplasia 41:17 e e 2:1,1,14 3:1 4:5 7:8 65:7	90:6 94:4 132:1 184:11,14 195:20,21 253:11 278:2 earlier 63:3 107:7 141:13 142:2,14 155:16 237:18 255:22 257:19 early 26:7 38:14 52:2 65:25 214:12 earned 160:23 easier 65:14 209:19 211:20 232:4 easily 261:10 easy 108:5 127:3 128:25 221:20 eat 56:19 ectopic 172:4 edge 59:3 edited 116:12 editor 95:9 eds 182:7,11 education 254:20 educational 115:8 edx 87:19 88:2 129:20,24 270:3,25 effect 39:24 57:7,20 254:11	effects 51:15 54:2 61:5 efficiency 4:9 effusions 149:13 egg 27:15,16 eight 8:22 9:7 11:7 189:10 211:3 either 6:13 20:14 35:2 37:15 55:2 73:5 83:10 153:10 214:23 228:6 236:3 238:25 250:15 252:6 258:3 electromicros... 130:7 electron 85:18 87:6,19 89:17 89:19,22 91:11 92:1,15 93:12 94:6,16,19 96:5 96:12 100:15 101:15 129:23 131:11 186:4 electronic 184:21 element 103:8 elemental 186:12 elementary 78:2 elevated 75:8
--	---	--	---

[elicit - enter]

Page 22

elicit 77:7 150:17 185:18 185:20,23 elicits 150:21 193:16 embryo 249:24 250:1 embryologic 249:19,22 emphysema 152:18 employee 161:22 279:14 279:15 employees 161:6,25 encompassed 96:17 encountered 147:23 148:6,9 148:19,20,21 155:25 197:18 198:4 200:1 encouraging 123:20 ended 112:21 endo 214:19 endocrine 181:22,24 endogenous 185:14 186:7 199:25 endometrial 22:25 67:16 83:2 105:10 106:4,18,24,24	107:10,14,20 109:10,22 110:24,25 166:5,10,19 169:6,8,24 170:1,9,22,22 170:25 171:9 171:24 172:5 172:20,20 173:10 174:25 175:3 178:2,14 179:8,13 180:11 214:9 252:16 273:19 273:23,25 274:3,4,14 endometrial's 109:24 endometrioid 15:5 107:16 167:2,4 170:10 170:20,22 171:19,24 172:7,11,14,20 209:9,25 210:5 213:4 225:14 225:22 226:18 226:22,23 227:15 231:10 233:4 234:3,8 234:11,13,15 235:5,11,24 236:5,18,19 237:4,6 245:7 246:18 257:5 257:20 258:4	276:4,9 endometrioma 108:8 210:11 210:13,19,24 211:4,7 213:16 233:7,8,11 236:3 245:9 endometriomas 214:13 endometriosis 67:17 81:5,5,12 105:7,22 106:3 106:11 107:9 107:13,15,18 107:22 108:7 145:1,14 166:18 175:15 176:1,4,9,10 208:8,10 209:12 212:14 212:20,24 213:3,11 214:8 214:10,14,20 226:24 227:2 227:12,13,14 227:20 228:5 231:20,21 232:6,22,25 233:1,3,4,12,19 233:22 234:1,5 234:12,13,16 234:18,25 235:2,4,12,17 235:25 236:3,7 236:17 244:22 245:1,3,8,9	246:14 247:23 248:1,22,25 249:2,5,7 251:5 251:6,17,19,21 251:23 252:5 257:14,14,21 258:2 276:1,6 276:10 endometriotic 107:4 206:25 207:22,23 212:15,18 213:2 214:7 234:21 235:3,6 236:6,8,20 237:5 257:20 257:21 258:3 endometrium 66:4 77:4,13 107:25 108:2 110:10 167:4 175:11 176:4 264:22,23,24 273:12 energy 87:19 engine 116:5 engulf 54:22 56:17 engulfed 197:23 enlighten 123:5 enormous 57:22 enter 76:18 113:20 129:2 254:12
---	---	--	--

[entire - excess]

Page 23

entire 12:6 19:17 40:23 152:3 159:24 209:15 280:5	112:17 121:25 122:2,3 126:7 126:18 211:14 238:25	252:11 etiology 276:9 277:1 evaluate 187:25 196:18 200:24 203:16 215:14 224:22 232:5	73:5 146:13 193:5 198:14 219:8 229:25 253:16
entirely 141:24 230:15 235:19	epithelium 27:9 27:10,20,21,24 28:1,9 67:14,16	evaluating 93:1 156:13 197:7	examine 46:2 59:21 191:3 243:9
entirety 244:7	77:1 80:4,5	events 66:1	examined 4:4 157:8 248:18
entitled 180:24	81:15 82:21 117:9 134:16	eventually 4:12 26:25 261:18	examining 25:15 64:7 77:3 94:12
entry 77:2 229:7	142:24 209:9 209:12 211:9 236:24,24,25	evidence 39:19 39:20 40:13 41:12,22,22,23 42:2,20 51:8 57:16 84:18 98:18 133:2 140:22 141:1,5 157:10 175:19 191:5 193:13 206:24 207:21 216:9 217:1,8 222:1,12 231:20 234:1,5 235:16 248:21 249:6	example 11:10 18:10 21:20 22:24 25:14 41:15 59:19 66:15 75:19 95:22 111:21 118:23 124:7 155:10,22 185:18 255:6 258:17
environment 24:23	equivalence 79:20	errata 280:1,11	examples 183:24
environmental 17:8,10,13,21 112:15,22,24 113:11,23 114:2,3 121:10 121:20 125:10 144:8	errata 280:1,11 error 20:11 231:9	errors 228:6	exceeded 74:2
eosin 118:12	escape 109:5	esophageal 144:15	excellent 57:13 115:18
epidemiologic 51:5 86:21 259:3 260:20	essentially 53:20 120:7 265:19 266:1	establish 178:5	except 7:13 199:21 207:10 217:25 280:9
epidemiologist 40:9	established 73:9,16 76:10 103:22 174:21	evoke 185:14	exception 111:22 160:11 245:10,11
epidemiologi... 41:11 44:1	estimate 140:6 140:18 235:23	evolves 42:11	excess 172:24 272:18
epidemiology 38:22,25 39:10 42:5 43:19 50:19,19,21 157:1 181:6	estrin 27:25	evolving 42:6	
epididymis 250:8	estrogen 28:2,3 28:8,8 170:11 172:24 173:1	exact 49:1 89:3 139:13,20	
epithelial 65:18 66:24 105:13		exactly 31:2 150:8 203:14	
		examination 2:16 49:14,21	

[exclude - factor]

Page 24

exclude 205:10	108:25 109:3	96:5 120:1,9	268:14
exclusively	120:13 148:15	182:2	exposures
179:14	158:12 256:20	expires 279:23	17:14 113:11
excuse 221:22	expected 86:4	explain 25:21	114:3 128:24
execution	100:5 147:22	27:5 58:2 73:23	200:18
230:20	148:2,5	110:22 126:4	expression 66:3
executive 2:11	expecting	148:8 166:3	66:23
exercise 258:17	254:17	178:20 179:7	extensive 12:12
258:19	expelled 27:17	229:11	127:12
exhibit 3:2 78:1	expenses 273:4	explained 4:9	extent 47:6
78:1,4 79:7	273:7	explanation	177:1 259:5
84:24 85:2	experience 59:4	38:24 59:15	268:19 276:23
160:13,16	77:12 120:11	86:6 100:7	external 29:12
167:19,20,22	153:8,13 154:7	141:22	29:14 193:24
207:6,7,8 208:2	193:8 199:21	explanations	194:9,11,13,16
227:23,25	236:13	119:25	194:22 224:25
228:1 229:4	experienced	expose 153:22	238:1
230:23 264:8	117:15 156:7	exposed 28:1	extracellular
264:19 265:4,7	experiment	37:23,25 55:25	146:24
265:9 273:3,4	201:7	74:13 87:10	extremely
exhibits 3:20	expert 23:24	121:25 200:20	36:12 109:17
45:25 220:5	24:4 44:14 47:3	200:24 201:1	109:21 115:7
264:3,3,5	47:15,17 48:9	exposing	122:5 247:15
exist 55:12	51:23 64:13,18	200:23	f
163:17,18	88:25 91:9,11	exposure 17:20	f 90:8
213:12 241:5	91:13 94:16	17:21 37:16	facilities 131:14
existed 138:1,3	108:23 117:12	52:13 61:20	fact 16:22 20:6
221:6	129:20,23	71:1 74:1,12,25	34:1 43:2,3
exists 162:19	130:2 176:16	75:11 86:23	63:7 73:10 75:5
235:7 250:12	176:17 177:16	87:5 119:23	145:6 186:20
exogenous	215:21 216:8	120:5 121:20	204:23 249:1
185:9,10	259:6	125:11 140:23	251:19 263:8
expect 59:21	expertise 66:6	141:2 144:9	272:16
70:21 71:7	88:1	148:4 181:3	factor 107:14
77:17 82:25	experts 44:11	200:22 201:13	172:10,14,20
83:5 97:5	88:21 94:19	216:10 217:2	

[factor - field]

Page 25

173:18 205:1,2 205:4 214:20 267:25 276:21 276:25 factors 17:8,9 17:13 24:22 65:1 66:22 112:16,22,24 113:7,23 114:2 114:18 143:19 145:19 202:20 204:7,21 214:19 218:17 218:25 241:22 276:16,19 277:3,3 facts 180:22 fail 86:3 100:4 102:4 failed 39:6 111:15 206:5 226:9 fair 15:6 16:21 17:25 22:16 29:23 31:4,14 62:8 169:18 192:10 248:8 257:7 fairly 45:5 196:7 fall 42:19 fallopian 27:9 27:10,11,13,20 27:21,24 28:1 28:18,20,23 29:3,4 30:7,9	30:13,20,25 31:3 67:12,14 67:16 70:2,20 70:22 77:4,13 81:1,8 83:1 84:3,9,12 86:10 86:11 87:13 97:25 98:4 105:13 113:12 113:17,18 114:4,12 142:18,24 167:1 175:13 178:18,22 179:5,17,21 180:12 201:2 217:4 219:11 219:14,15,16 220:3 229:19 237:2,3 249:20 250:13,16 264:20,25 265:3 familiar 62:11 86:12,16 104:10,14 254:21 family 143:16 143:21 144:12 144:13 173:22 174:1 192:9,11 204:10,18 217:24 218:3,5 225:16,17,21 244:20 245:12 245:20 247:10	247:24 248:2 248:12 fan 93:15,15 far 14:12 35:21 46:16 48:16 78:13 126:1 192:12 247:1 270:24 271:4 fashion 62:13 96:17 faster 43:8 fat 107:3 173:2 father 204:16 225:18 fatty 107:2 favor 166:18 favor 106:8,9 feature 210:21 features 46:5 146:17 147:8 214:4 223:20 231:15 243:24 244:4 february 160:22 feed 80:3 feel 115:22 227:10 273:16 feels 49:4 felix 1:9 4:2,7 7:9 164:2 176:20 177:2,8 253:13 278:1 280:18 fellow 11:23	fellowship 11:4 256:19 felt 139:23 female 3:4,5 52:5 54:3 70:1 78:5,22 79:11 109:1,15 114:25 115:2 115:16 250:6,7 250:9 ferric 212:5 ferruginous 118:9,10,17,19 118:22 119:2,5 119:9,11,21 120:14 128:25 fiber 118:19,24 119:7 120:2 124:13,22 125:3,7,14,16 125:18,19 fibers 77:9 118:20 124:16 124:25 125:9 128:7 269:15 269:17 fibrin 27:18,18 fibroid 244:22 fibrosis 13:22 fibrotic 107:8 fibrous 104:12 106:25 107:5,6 146:23 field 13:10 21:20 26:3,7 88:21 94:16,19
--	--	---	---

[field - foreign]

Page 26

95:12 99:23 117:13 120:1 129:20,23 fifth 141:14 figo 169:13 figure 208:5 211:2,19 238:6 238:16,20 figured 49:2 file 45:7,19 184:14,15,17 184:20 files 44:18 45:2 45:6,7 183:10 183:14 fill 63:21 150:12 filled 151:23 fimbriae 30:10 30:10 265:2 final 62:17 155:17 finally 77:25 financially 279:16 find 39:23 58:11 59:13,15 65:14 74:12,21 77:5 83:12,21 83:24,24 85:6 89:14 106:23 128:25 138:22 145:21 149:4 158:12 166:15 180:14 183:25 234:10,11	265:7 272:8 finding 43:3 86:21 89:13 101:18 192:6 232:12 270:2 270:14 findings 86:3,6 100:4,7 102:5 130:16 145:2 147:11 158:4 173:8 176:1 182:4 206:10 210:9 218:13 237:12 249:16 270:19 finds 93:2 fine 9:15 18:16 132:10 finish 83:16 finished 11:11 83:17 firm 138:23 firms 63:22 first 4:3 13:14 26:2 31:20 32:8 32:9 48:19,22 48:24 62:9,24 86:11 100:9 132:14 140:19 140:20 143:22 143:24 144:2 147:20 149:9 165:16 170:14 170:18 180:25 189:6,11 190:16,18	216:16 219:7 242:25 246:2,2 246:5 271:13 five 12:1 15:11 15:13 31:4,6,10 33:16 35:2 38:17 39:19 41:12 42:4 45:21 54:9 58:16 85:17,19 87:3,4 88:8,15 100:18 101:6 101:22 116:1 151:2,4 172:5 231:1,4 266:6 267:25 268:2 272:13,19 277:23 flight 74:4 flow 24:19 271:17 fluid 167:7 fluids 10:12 foamy 220:6 221:9 foci 235:3 252:20,21 focus 59:24 176:1 227:12 227:13 234:16 fold 22:2 35:12 74:5 folders 5:25 folks 85:3 follow 16:20 41:13 152:20	164:8 171:6 253:15 265:8 followed 214:15 following 20:23 87:11 follows 4:4 20:5 271:16 footnote 149:9 268:11 foreign 52:22 52:23 53:8,16 53:16 54:16,17 55:13,22 71:5 71:14 98:3,25 99:1,14 148:3 150:18 151:20 157:7 158:16 185:3 192:23 192:24,25 193:14,17,18 193:20 197:18 198:4,9,17 199:7,8,24 200:1,3 203:18 212:6 215:16 216:22 221:17 221:23,25 222:11,16,19 222:20 223:2 237:14 238:9 238:15 240:24 243:12 259:10 259:12,22 260:9 261:24 262:2 267:12
---	---	--	---

[foreign - full]

Page 27

267:14,17	102:23 103:9	267:7 270:8	120:16,19,24
272:9 278:8,11	103:24 104:12	277:5	125:1,1 126:6
278:12,13,16	104:12,13	format 16:19	126:12 142:7
forget 104:5	105:17 108:17	228:9,18	158:18 159:1
forgetting 21:5	109:12 111:11	formation	186:3,21 192:3
forgot 230:12	112:2,12,18	153:25	193:13 226:9
253:7	113:14 114:14	formatted	226:14 233:22
form 16:8,24	115:3 117:7	167:14 228:19	273:11
18:23 22:17	119:2 120:14	formed 52:10	foundation
23:8 24:2 26:5	120:22 121:4	53:6,16 118:20	11:14
29:11 31:15	121:16 122:15	143:6 221:24	four 15:11
33:24 34:4,13	124:5,23 128:2	236:6,20	19:22 38:16
36:2 37:1,10	129:10 130:11	249:24	74:5 90:14,15
38:10 39:1 42:9	130:20,25	forming 50:4	116:1 153:11
42:24 43:11,21	131:6 139:6	119:21 250:1	153:14 160:2,3
46:19 50:5,6,25	142:19 143:7	259:21	192:22 211:19
51:17 52:16,22	146:3 149:24	forms 57:6	fourth 39:25
53:2,22 54:14	150:15,24	118:18 119:6	fragments
55:5,18 59:10	151:4,9 152:14	155:16 164:10	56:19,20
60:5,24 61:7	153:1,18	185:25 201:22	free 273:17
62:12 63:2	156:22 157:3	201:24 212:23	frequent
67:23 68:24	157:21 170:6	212:24 214:9	106:23
69:21 70:3,15	174:19 181:14	214:10 224:5	frequently
71:4,6,13 72:2	186:8 187:11	formulate 43:7	58:11 68:12
73:13,21 75:1	188:22 196:12	formulated	107:21 148:20
75:17,24 76:12	196:20 198:1	41:11	186:21 255:2
78:11 80:15	200:4 201:4	fornix 111:16	friend 40:22
81:10,18 83:4	216:3,19	forward 14:4	friends 95:9
84:8 87:24 88:4	222:14 226:6	fossa 208:8	front 39:18
88:23 90:4,25	235:14 240:19	233:14 234:25	frozen 13:15
91:20 92:10,16	242:10 246:15	found 58:18	fulfilled 168:21
93:18 94:21	247:8 259:25	59:24 72:7	full 147:20
95:2 96:7,20	260:3,4,13	87:10 102:20	174:7 205:24
97:6 98:2,11	262:15,22	104:12 107:1	218:8 226:1
99:12 100:21	263:5 265:14	107:19,21	265:2
101:11 102:7	265:24 266:9	112:7,8 119:3	

[fully - go]

Page 28

fully 196:18 funding 47:24 fungi 53:15 further 36:25 37:3,6,12,14 157:6 200:11 238:15 243:25 279:9,13 future 46:3	general 4:11,21 12:9 17:14,15 54:15,19 72:22 89:19 94:3 105:23 117:1 121:8 180:24 205:3,5 215:23 216:13 254:18 254:21 255:23 269:13 generalizing 41:2 generally 4:16 182:21 generate 252:23 generated 53:14 generating 28:5 generation 11:20 genes 19:7,11 22:21 32:17,23 34:7 65:8 143:18 genesis 133:4 191:6 203:19 215:17 225:1 250:4,13 genetic 18:10 18:18 19:6 31:13 33:19 59:17 107:17 143:15 144:4 145:17,23 174:4,7 177:24	192:1,6 205:24 206:4,9 218:8 218:11 226:1,9 226:14 274:8 274:11 276:24 277:17,18 genital 17:5 64:21 70:8,14 73:20 75:15 78:9 80:19 82:12,23 83:11 83:13,21 86:19 109:6,15,17 111:6,15 115:1 115:16 194:16 233:2 genitalia 238:1 genome 19:17 geography 118:13 germline 18:19 32:16,22 33:4,7 33:9,11,14 192:2 206:9,13 218:12 getting 21:17 22:2 41:7 108:4 113:23 144:22 162:17 172:7 176:14 192:17 204:19 211:13 247:6,25 256:18,18 giant 53:1,9,11 54:17 150:11 192:24 267:17	gigabytes 45:6 give 16:23 21:20 22:7 32:23 40:16 58:24 94:22 103:15 137:1,6 167:19 188:20 209:19 230:7 252:7,9 255:6 277:23 given 14:20 15:14 16:22 120:1 180:22 227:21 gives 20:20 37:17 88:7 236:25 250:4 250:13 gland 106:18 106:24 107:4 glass 45:8 glove 108:10 gloves 52:4 108:11 154:25 198:7 200:8 201:14 glue 27:19 glycoproteins 26:12,14 go 8:6 9:1 12:6 30:16 37:18,24 42:2 51:7 63:14 77:6 78:13 80:10 82:22,22 84:21 101:21 109:6,20,22,23
g			
g 20:2,6,7 gallardo 3:14 4:19 207:16 224:9,23 225:10,13,25 228:2 238:12 241:23 gallardo's 3:17 3:18 225:2,6,22 226:22 227:18 227:23 242:2 garbage 40:14 40:14 gastric 14:15 14:18,24 15:1 gathered 196:19 241:13 gears 116:25 gene 19:9,10,11 19:13 20:15 21:10 22:19,23 23:1 26:10 28:24 34:3 66:2 143:11 257:12 258:12			

[go - growth]

Page 29

110:10,12,13	goes 111:5	gotten 193:18	granulomatous
110:24 111:4,7	159:22 161:17	grade 41:17	53:5,5 60:20
111:14 114:16	166:25 194:13	141:11,20,21	61:3 150:18
116:3,8 124:19	194:14,15	142:1,6,11,15	151:4,20
128:17,21	going 4:10,25	149:15,18,21	153:17,25
132:6 158:14	8:6 9:1 24:21	149:22 150:6	221:17,21,22
160:24 161:2	31:16,20 35:20	151:7,7 155:1	256:5 259:12
163:10 167:11	39:2 49:6 60:8	191:20 192:17	259:22 261:25
179:16 193:20	64:7 66:17	202:14 217:16	267:13,17
194:18,25	74:17 88:25	218:17 219:1,9	272:14,22
195:1,2 207:2	89:1,12 101:21	221:15 223:8	278:5
220:4 221:14	110:19,20	229:17 230:16	great 173:24,24
222:5 224:11	112:25 116:17	243:23 244:14	217:25 245:13
227:22 228:25	129:5,17 132:8	grand 2:7	245:23 246:6
231:13 233:15	146:2 158:24	grandfather	246:12,24
238:5 239:23	162:8 163:7	144:15	247:4,24
277:22	164:14 177:11	grandmother	248:13
godleski 88:7	183:23 202:23	144:14 173:25	greater 150:13
92:13 93:2	207:6,8,11,19	204:13 245:17	169:2,11,22
139:2,20	208:12 217:4	grant 13:25	246:17 272:12
158:19 159:1	227:22 228:25	26:8	272:13
188:7 237:15	233:17 242:24	grants 47:24	grind 74:11
238:18 265:10	gonorrhea	164:17,19	83:20
265:12,18,20	111:3	granuloma	grossed 238:13
266:13,23	good 4:7,8	53:24 54:16,23	grossing 271:6
267:5,11	40:17,22 41:3	60:7 198:19	ground 16:1
270:25 272:17	68:12 111:3	278:12	group 13:9
godleski's	115:25 170:20	granulomas	64:23 141:7
102:19 130:16	196:11,13	52:24 53:6,13	189:12
158:4 177:17	224:11 253:13	53:13,16,19	grouping 256:6
182:4 183:1,12	253:14	58:19 60:19	groups 12:25
184:8 186:14	goodness	110:16 150:11	grow 222:12
237:12 266:17	256:18	153:24 154:8	growing 219:19
267:24 270:2	gosh 115:25	260:9 262:2,2,3	219:21
270:13,19	127:10	granulomatis	growth 220:2
		52:25	222:8,10

[guanine - hegarty]

Page 30

guanine 19:23	habit 184:16	healthy 80:3	91:20 92:6,10
guarded 40:17	half 9:20 11:17	220:12	92:16 93:18
guess 36:21	45:6 60:9 108:8	heard 25:10	94:21 95:2 96:7
47:16 50:6	137:8 165:1	66:7 120:23	96:20 97:6 98:2
103:17 105:12	168:23 169:1	122:12	98:11 99:12
138:12 172:9	169:14 225:19	hearing 189:21	100:21 101:11
184:3 221:18	hand 135:8	189:22	102:7,23 103:9
227:10 240:23	208:22 279:19	heavy 73:17	103:24 104:13
258:20	handed 229:23	hegarty 2:6,17	105:17 108:17
guessing 24:6	handful 52:6	7:17,21 8:1,4,8	109:12 111:11
guide 17:1	handle 21:16	8:11 16:24	112:2,12,18
guided 244:13	handled 238:13	18:23 22:17	113:14 114:6
guidelines	handles 161:13	23:8 24:2 26:5	114:14,16
41:14,18 42:1,3	handling 271:6	29:11 31:15,23	115:3 116:19
gun 177:13	happen 22:11	32:1,12 33:24	117:7 120:22
guys 116:17	34:1 109:3	34:4,13 36:2	121:4,16
164:4	110:23 113:5	37:1,10 38:10	122:15 124:5
gyn 10:3 11:4,5	142:2 175:6,8	39:1 42:9,24	124:23 128:2
11:23 93:20,21	201:8	43:11,21 46:7	129:10 130:11
116:4 200:2	happened	46:10,19 47:5	130:20,25
254:18 256:14	230:8	48:5 50:25	131:6 132:3,5
256:16,19	happens 56:8	51:17 52:16	132:10 133:14
gynecologic	58:2 81:24	53:2,22 54:14	139:6 142:19
86:2 100:3	261:12	55:5,18 59:10	146:3 149:24
102:3 120:19	hard 74:16	60:5,11,24 61:7	150:15,24
153:7 157:9	184:18,24	62:12 63:2	151:9 152:14
199:7 234:12	219:23	66:16 67:23	153:1,18
254:5	hardy 2:6	68:24 69:21	154:12 155:3
gyns 254:21	hazard 181:7	70:3,15 71:4,13	156:22 157:3
h	head 102:24	72:2 73:13,21	157:21 163:5
h 3:1 90:5	104:4 140:15	75:1,17,24	163:10,25
h&e 93:9 96:22	145:12	76:12 78:11	164:8 170:6
96:24 97:8 99:4	health 61:5	80:15 81:10,18	174:19 176:19
187:13 249:14	74:22 192:16	83:4,16 84:8	177:7,12
278:19,20	196:6 275:3,4,9	87:24 88:4,19	181:14 186:8
	275:9	88:23 90:4,25	187:11 188:22

[hegarty - huh]

Page 31

189:16 196:12 196:20 198:1 200:4 201:4 216:3,19 222:5 222:14 226:6 230:22 235:14 240:19 242:10 246:15 247:8 253:12 260:1,6 260:16 262:18 263:1,7 265:17 265:25 266:12 267:8 270:11 277:7,22,25 278:23 hegarty 229:5 helix 25:14 help 11:2 256:18 helpful 42:21 hematogenous 179:7 hematoxylin 118:12 hemorrhage 27:17 hemosiderin 211:18,23,25 212:1,3,7,12 henrich 2:10 hereditary 145:19 hereunto 279:18 hey 7:2 11:2 37:23,24	hgsc 221:15 hide 93:6 hiding 38:15 hierarchal 42:20 43:16 134:11 high 21:7 28:7 29:22 40:12 41:17 127:17 141:11,20 142:1,11,15 191:20 192:17 202:14 208:16 217:16 218:17 219:1,9 221:15 223:8 229:17 230:16 243:23 244:14 higher 21:18 22:23 31:9 134:21 145:7,9 145:10 210:18 221:4 highlight 211:6 highlighted 211:7 highlighter 209:19 highly 74:4 95:13 115:19 131:16 166:9 hill 2:11 histiocytes 220:6,7 221:10 histogenesis 237:1	histologic 89:21 94:5 140:22 141:1 193:4 216:9 217:1 histological 86:4 100:5 148:16,18 histologies 17:22,23 histology 165:14 193:1 193:22 222:25 238:13 246:5 histories 204:18 history 32:13 38:12 143:16 143:21 144:12 144:13,24 160:1 172:2,6 173:22 191:19 192:9,11 204:10 217:23 217:24 225:16 225:17 244:20 244:24 245:12 245:22 247:10 247:24 248:2 248:12 249:5 251:18 273:16 273:21 hit 13:10 76:25 88:13 hodgkin's 204:14 245:16	hold 89:7 167:10 holy 3:8 167:23 honestly 112:20 hope 178:23 hopefully 44:2 horacio 230:2 hormonal 252:6 hormone 17:20 30:12 hormones 17:11,16 29:9 29:12,14,20,25 30:3,3 170:3,4 170:12,21 171:4 248:6 horrible 14:20 25:8 158:24 hospital 121:7 126:23 169:18 194:3 269:24 hospitals 127:9 131:10 269:4 hour 11:17,17 15:22,24 16:1 16:23 60:9 hours 5:7,15,16 5:19 6:25 9:7 11:7 22:1 61:16 62:2,16,22 74:7 253:17 hvp 14:11,13 14:13 21:25 huh 269:18
---	---	---	---

[human - important]

Page 32

human 21:21 24:13 51:15 111:19 117:21 200:16,21,23 201:7,12 258:21,25	255:19 hysteroscopies 172:5	198:9 204:7 206:5 208:10 209:8,24 210:5 211:19 226:4 232:14 233:15 241:22 262:4 266:24	immortalized 28:15 immune 53:13 58:25 immunoche... 126:12 immunohisto... 249:16 immunohisto... 126:21 127:7,8 127:12 249:11 impact 21:9 213:19 225:10 imperforate 214:21 implant 106:13 109:11 146:23 147:6 implanted 105:12 106:5 201:1 implanting 114:12 implants 81:8 133:19,20,22 134:18,21 135:8 136:9,11 137:2,5,8 146:18 147:6,9 147:14 importance 146:25 important 36:12 45:20 58:21 59:1,18 66:8 86:23 87:2
humans 23:11 24:1 200:13,19 200:24 hundred 36:15 45:12,12 54:11 62:22 236:10 236:14 hundreds 77:3 110:14 hung 105:12 hydroplasia 273:16 hymen 214:21 hyperplasia 273:22,24 hyphen 195:20 hypotheses 106:9 hypothesis 27:7 81:12 106:8,10 230:8 hypothesized 215:21 216:11 hypothetical 76:8 99:13 155:23 156:5,9 hypothetically 77:15 hysterectomy 244:21 255:15	i iarc 72:25 122:13,17,23 122:25 126:3 263:10,11,13 idea 62:24,25 68:2 76:13 108:23 143:10 162:18,22 identical 102:20 identification 84:24 88:17,22 99:21 102:18 102:19 103:19 103:21 131:5 160:13 167:20 207:7 227:25 identified 3:2 87:23 90:2 93:12 131:4 139:4 174:16 182:11 187:2 193:21 197:12 197:21 259:12 266:15,19 267:20,22 identifies 93:7 identify 88:2,5 103:5,6 130:17 140:14 164:20 188:15 192:1	identifying 187:8,17,17 210:14 216:6 267:25 iliac 193:24 194:9,11,13,13 194:14,17,17 194:23 195:1,1 237:17,24 image 78:22 87:15 89:14,20 90:1,11 91:17 92:22 94:1,10 95:21 96:10,11 97:3,14 210:17 211:1 images 94:10 96:21 97:8,18 183:18 188:14 188:19 272:17 imagine 124:7 imaging 89:19 imbalanced 66:23 immediately 126:25 immense 19:20 immortalizati... 20:22,23	

[important - inflammatory]

Page 33

89:11 134:8 158:6 213:8,11 213:13,17 262:4 importantly 45:23 impossible 25:7 121:11 improper 68:22 improperly 22:15 improved 130:10 inactivated 65:17 inborn 22:10 incidentally 87:16 133:16 134:5 154:24 203:6 215:19 include 10:14 17:9,10 52:24 68:20 168:22 170:10 176:1 233:18 260:20 272:1 273:15 274:7 275:2,7 included 15:14 206:15 includes 144:13 150:11 204:10 225:17 245:12 271:6 including 15:2 32:17 143:25 144:8 150:18	159:17 192:23 204:1 249:14 258:11 259:11 261:23 inclusion 28:10 28:11 29:7 30:6 inclusions 27:23 275:6 income 13:2 160:19,23 161:16,21 inconsistent 29:6 incorporated 17:5 27:22 44:23 increase 13:21 35:15 70:6,12 74:5,9 121:23 121:25 123:11 144:21 172:7 173:9 192:7 204:22 206:10 206:13 218:13 226:10,15 245:24 247:12 247:25 260:10 increased 22:1 26:15,16 35:13 35:17 59:13 70:9 86:20 123:10 174:1 192:12,17 204:19 218:5 247:5,18 277:13	increases 28:13 28:13 205:7,20 incredibly 28:7 incurred 273:7 independent 157:1 166:22 indeterminate 35:25 36:1,4 181:16 indicate 68:5 210:9 indicated 255:22 256:9 262:10 275:25 276:3 280:10 indirectly 279:17 individual 125:18,19 257:13 individually 125:2 induced 61:14 industrial 128:24 155:1 263:20 industry 108:14,21 inevitably 269:15 infection 70:8 infectious 53:14 262:3,4 278:9 infertility 61:13 61:14 144:25	145:13 172:3 172:13,13 173:8,12,14,16 173:17 infiltrate 159:6 inflammation 60:21 61:3,15 68:2,7,11,14,14 68:16,18,19 69:4,5,18 71:6 71:12,15 106:20 147:11 150:19 151:16 151:16,17,19 152:7,8 153:22 221:17,22 238:17 256:6 260:25 261:2,4 261:14,23 278:5 inflammatory 52:14,18 56:4 60:16 61:6 70:6 70:7,21,25 71:1 99:10 105:24 108:13 123:25 150:10,13,14 150:22 151:13 153:16 185:15 185:19,21,24 200:2,12 220:7 221:10,13,25 222:11 239:10 239:14,17 259:10 261:16
---	---	--	---

[influence - invoice]

Page 34

influence 30:12 51:10 174:9 205:12 217:11 influenced 29:8 29:24 30:2 133:4 170:3,4 170:11 171:4 248:6 influences 145:5 inform 50:22 51:1 information 11:21 16:16 24:24,25 41:7 42:21 43:1 47:7 115:7 126:8 137:20 186:1 informed 266:10 infusion 154:18 infusions 153:4 inhalation 120:6 inhale 74:13 inhaled 121:2 128:6,11 inherited 28:21 31:14 33:23 34:3 143:15,17 144:5 205:21 205:21 inhibin 66:23 initial 4:20 66:1 initially 82:15	initiate 52:14 60:22 63:1 initiated 222:19 initiative 196:7 275:4,10 inject 111:16 injected 151:25 152:1 injury 26:14,15 162:12 240:6 inserts 159:20 inside 27:12,22 27:25 28:11,17 51:25 79:21 80:10,12,13 91:7 108:12 185:11 208:13 instance 227:11 244:6 257:24 instances 126:19,20 127:2 233:10 instigated 222:10 instruct 47:5 instrument 188:19 insufficient 277:15 intend 12:20 43:18,22 117:4 117:8 132:15 165:17 177:20 190:19 203:7 214:3,6 215:6 223:19 224:13	242:7,13 243:1 intended 255:3 intending 7:17 38:25 182:20 intentionally 46:20 interact 9:16 9:23 10:2 254:3 255:5 interacted 9:13 interaction 17:25 254:24 interactions 9:21 254:10 interest 63:21 64:5 interested 279:16 interesting 23:12 231:17 interferes 113:18 internal 49:10 49:12 77:10 140:23 141:2 194:14,25 216:10 217:2 interpret 196:18 interpreted 169:19 interrupted 209:16 interspersed 118:14,15	intraepithelial 229:20 introduce 21:25 108:25 227:22 introduced 77:16 82:24 111:22 193:3 238:11 invade 147:2 invading 135:22 invasion 135:23 146:25 168:24 169:9,13,19,21 178:20 229:20 255:11 invasive 133:19 134:18,21,24 135:8,10,12 136:9,11,23,24 137:5 147:5,8 147:13 investigate 36:13 investigating 34:18 46:17 62:9 investigation 36:25 37:3,6,13 37:15 investigator 164:25 invoice 6:24 7:4 162:23
--	---	---	--

[invoiced - kind]

Page 35

invoiced 8:19 162:21 189:2 273:4 invoices 3:7 6:20,21,25 7:3 7:12,16,18,25 8:1 160:16 163:3,6 188:25 189:25 201:17 201:18 215:1 223:24 242:17 252:23 273:2 invoke 123:25 150:10 involved 63:24 66:5 140:11 169:5 180:14 226:19 involvement 166:19,21 169:4 180:17 involves 15:7 219:17 254:20 involving 14:6 181:22 219:10 229:17 266:7 ionizing 112:25 ions 212:5 ipes 231:13 iron 119:6 185:22,23,25 irregular 26:25 202:17 issue 17:4,4 46:18 62:3 116:4 270:13	issued 7:12 issues 63:23 93:7 115:2 116:13 it'll 17:13 21:6 27:19 italian 21:3 itching 155:11 155:14,19 156:5 items 273:3 ivor 13:18 j jersey 1:2 189:15,22 190:16 jesus 165:5 jew 204:23 jewish 205:19 job 9:16 johnson 1:4,4 46:15,15,21,21 47:1,2,20,20,20 47:20,24,25 48:10,11,17,17 48:20,20 49:9 49:18,19,19 51:22,22 62:4,5 62:8,8,24,24 73:3,3,7,7 132:24,24 139:2,2 140:8,8 140:8,9 141:4,4 162:13,13 184:7 189:3,3	190:3,3 191:1 202:4,4 203:14 213:23,23 215:12,12 223:14,25,25 224:20 242:1 243:7,7 259:17 259:20,20 260:8,8 262:25 262:25 271:12 johnson's 49:9 71:20,24 72:6 73:9 75:20 76:11 100:14 101:9,14,19 104:17,19,22 105:2,3,4 137:17 184:7 191:1 203:14 204:4 213:18 217:10 223:14 224:20 225:9 242:1 259:17 262:14,19,24 263:3 270:7,21 271:12,21 272:6 journal 85:21 95:6,7 journals 95:11 journeys 43:3 juan 1:9 4:2 280:18 judkins 3:15 4:18 207:16 214:24 216:14	217:10,14,20 218:5,16 219:1 221:14 222:25 223:8,12,15 july 279:20 jump 66:20 jumped 177:12 june 1:12 279:11 k k 195:20 kansas 2:7 keep 66:16 80:3 116:17 keeps 6:25 kemp 189:21 kerman 47:14 kidney 218:1 225:20 251:2 kidneys 250:4 killing 123:19 123:21 124:14 124:18 125:7,9 kills 123:15 124:8,9 kind 10:15 15:14 19:14 33:19 61:21 77:18 105:24 106:6,12 125:3 125:20 127:4 162:5 166:2 173:2 229:5 243:10 261:12
--	--	---	--

[knew - learn]

Page 36

knew 93:22	172:8 176:7	kornburger	larger 54:12,20
knocks 20:7	180:12,13,13	1:14 279:3,22	150:6,9,12
know 12:17	181:24 183:8	kras 143:9	largest 158:8
13:19 16:12	183:18 188:23	l	late 209:21
25:16,18 31:8	189:6 192:12	l 115:25 195:20	lately 31:9
35:4 36:12	197:2,4 201:21	lab 66:15 159:2	latest 168:17
38:12 46:15,20	205:19 208:4	184:1 185:1	law 63:22
47:1,15 51:25	210:23 211:22	268:18,19,20	254:11
52:7 58:13 59:5	212:25 213:16	268:24 269:2	law.com 2:12
61:16,18,25	216:15 218:23	269:12,24	lawyers 5:13
62:16,22 65:10	220:14 221:19	laboratories	44:6 47:1 48:20
66:21 76:5,9,15	224:4 228:16	11:16,19	49:9 51:21 62:4
77:6 78:13	235:11 236:16	268:22 269:13	62:8,24 132:24
80:13 82:5	246:4,5,9,22	laboratory 10:9	138:7 139:3
83:20,22 88:1	249:12 252:1	11:6 18:9 25:9	140:8 141:4
91:15 92:8,13	253:1 254:16	26:10 37:19,20	162:14 189:3
93:15,20,23	269:1	37:24 66:14	190:3 191:1
94:17 96:1	knowing 184:3	269:20	202:4 203:15
102:11 103:1	knowledge	labs 11:13	213:23 215:13
107:24 110:22	23:10 40:10	121:7 127:10	223:14,25
110:25 111:13	42:11 52:13	131:10 148:14	224:20 242:1
119:15 120:24	67:4 189:5,25	269:4,9,12,16	243:8
122:17 123:2	192:15 214:18	lack 148:2	lay 16:5
125:25 126:1	214:22 242:20	166:18	layer 219:14
127:19 128:9	260:5	laden 192:25	layers 134:15
128:23 129:15	known 19:5	211:18	leaches 28:5
137:18 139:23	33:22 34:2	lady 252:1	lead 68:3 73:18
141:10,25	117:21 143:18	landed 112:15	74:16 168:21
142:10 145:10	192:2,6 206:10	241:6	255:7
145:22 146:11	206:18 218:13	landmark 21:4	leading 81:11
150:21 153:2,3	226:10,14	large 42:3	134:12 259:25
154:20,23	257:10,14	44:18 54:22	260:14 277:5
155:2,4,24	261:15 277:19	57:22 58:9	leads 156:6
159:15,19	knows 39:22	196:4,6,7	learn 179:18
163:16 164:4,6	142:1	211:15 252:21	180:7
164:9 165:6			

[learned - little]

Page 37

learned 46:16 47:10,13 51:14 179:15 learning 78:2 leave 129:1 210:6 269:15 leaving 108:12 lecture 15:18 15:20,23 16:5 40:23 lectured 38:19 117:24 lectures 16:7 led 101:24 174:16 231:19 left 54:4,9 57:15 60:17,18 172:4 176:2 191:21 193:24 194:9 208:22 233:8,11 234:4 234:7 235:9,11 235:17 leg 194:14,18 legal 50:8 63:18 lengthy 14:9 lesion 143:1,2 229:21 273:25 lesions 142:16 155:10,13 lesser 150:22 leukemia 225:18 leukocyte 239:24	leukocytes 239:9 level 28:7 39:25 40:13 41:21,22 41:22 59:11,23 59:23 74:1,25 75:7,11,13 121:10 262:13 269:22 levels 28:2 29:21,22 30:3 39:18,19,20 41:7,12 42:2 76:2 262:20 liability 1:5 48:16 lie 13:19 life 141:13,14 142:14 264:21 lifetime 49:4 152:9 ligation 113:7 113:10,16 114:3,11 244:21 ligations 114:10 light 85:18 87:6 87:18 198:24 223:1 255:24 256:4 lighter 79:5 likelihood 186:23 likely 36:9 51:18 54:10 55:25,25 59:15	76:20,25 86:6 93:8 98:14 100:7 121:15 136:9 142:12 143:11 144:17 145:2,14 147:4 149:4 151:2 158:19 159:2 166:9 168:6 170:24 180:21 182:9,14,22,23 182:24 184:15 202:1 224:7 242:22 248:4 248:14 252:2 261:7 271:3,4 limitation 268:24 limited 10:13 45:5 48:5 line 20:2 26:18 34:15,18 169:10 186:22 262:12 lined 124:11 lines 40:6 lining 79:25 128:21 209:16 link 183:13 215:22 216:11 linked 38:1 260:25 list 17:12 21:7 32:23,24 48:15 50:14,19,20 62:19 102:15	132:2,21 165:21 190:23 203:11 215:9 224:17 243:4 listed 13:25 132:21 165:20 190:22 203:10 215:8 224:16 243:3 lists 49:24 50:1 literature 6:15 30:9 83:12 84:6 98:8,10 147:7 153:19,20,21 153:23 154:7 259:3 274:4,8 litigating 189:11 litigation 1:5 47:4 51:12,23 63:9 140:12 160:1,8,24 161:16 162:14 266:7 little 12:13 17:24 27:20 28:10 29:5 48:23 51:1 57:12,25 68:16 80:1 81:4 89:5 103:3 115:22 116:25 129:16 154:16 200:11 209:16 216:2 241:16 243:24 254:20 272:11
---	--	---	---

[live - lymphovascular]

Page 38

live 69:3	127:6 133:1,17	230:22 232:12	128:15,16,18
liver 244:14	139:19,19	239:11 255:24	128:19,20,21
llc 161:11	148:18 163:7	261:22	129:1 144:14
lobulated	175:23 183:4	looks 91:17	204:15 245:17
241:19	188:13 189:16	92:1 164:23	lungs 74:10
lobules 241:20	203:3 209:3	209:11 261:2	lying 239:7
locate 222:20	211:1 217:5	264:13	lymph 84:11,15
located 1:11	219:13 237:8	lot 15:2 16:1	84:18,20,21
139:14	238:24,25	27:17,18 28:19	86:9 87:12
location 237:18	253:6 254:15	38:24 50:17	97:20,20 99:6,7
locations 87:11	261:22 264:15	57:14 58:12	99:11 141:8
139:4	273:17 276:19	66:19 115:5	179:12 180:14
logic 201:10	276:20	122:23 129:13	180:16,17,18
logistically	looked 11:24	146:24 148:10	193:24 194:10
184:6	65:7 74:16	148:24 153:8	194:20 198:11
long 8:19 9:18	100:14 101:14	252:7,22 255:5	198:12 237:17
25:19 32:24	104:17,19	272:11	237:24
56:1 59:6 69:4	139:21 140:21	lots 104:8	lymphatic
69:7,10 71:3,7	141:3 183:21	278:13,16	129:4,9 179:6
118:11,16	198:17 208:20	louis 65:7	194:12,20
154:8 164:11	210:17 213:7	love 14:2	lymphatics
165:5 260:24	251:10 274:8	low 13:2 17:19	175:17 179:14
261:2,4,13,13	looking 10:1	35:2,3 141:21	179:15
longer 48:14	11:8 13:18 32:3	142:6 178:14	lymphocyte
look 8:4 11:15	36:23 38:6	208:6	53:11 105:25
12:3,10 14:4	56:21,24 58:5	lubricants	240:1
30:8 31:24	59:7,9 60:4	198:6	lymphocytes
37:25 39:18	85:10 90:11,12	luggage 50:8,10	239:1
41:14 51:11	91:15,16,18,23	115:5	lymphoma
54:4 56:25	96:15 106:17	lumped 205:11	204:14 245:16
57:25 59:1	106:23 126:24	lunch 116:18	245:16
62:19 74:11	127:22 131:23	116:20	lymphovascu...
75:3 78:6 82:12	140:5 188:2,3,4	lung 25:20,23	178:19
92:2,5 94:1	188:18,21	38:6,7 119:15	
95:21 96:10	209:7,7 213:6	119:18,19	
97:4,5,7,8	221:5 228:3	121:25 122:2,9	

[m - material]

Page 39

m	197:12 198:10	majority 18:25	malignum
m 4:5 253:11	211:18 223:2,4	89:23 94:7	14:21
278:2	223:5 237:17	177:25 274:12	maluf 230:3,11
mac 94:11	237:22 238:7	make 4:22	230:12
machinery	238:23,24	17:15 18:13	man 230:18
19:17	240:6 241:2,18	24:24 34:14	managing
macrophage	256:6 267:15	37:14 58:24	137:12
52:24 53:8	267:20	62:20 85:5	manifest
54:11,22 55:7	made 19:21	92:15 93:5	142:13
55:15,16,21,24	50:16 97:23	94:18 101:25	manufacturers
56:16,19 58:1	122:20 138:5	110:6 137:24	108:11
59:22 90:22,24	146:11 147:4	148:8 169:5	manuscripts
91:5,7 92:23	147:16,18	173:18 179:11	13:2
96:2,13,18 97:4	163:4 164:3	182:6 192:20	margin 255:12
97:9 99:5 112:9	186:10 194:7	213:2,21	255:17
124:8 150:22	200:14 232:15	223:11 227:19	mark 2:6 7:15
151:3 158:9,13	263:9	246:10 247:18	78:1 79:6 163:2
197:23 198:18	magnesium	255:2,3 267:9	167:18 207:6
212:4 240:1,3	99:22 100:16	274:9	207:11 219:4,5
241:20	101:16	makes 74:13	marked 84:24
macrophages	magnification	127:13 168:4	85:1 160:13
53:20 54:20	89:18 97:17	261:7	167:20 207:7
55:1,10,23 56:5	208:6,17	making 4:23	208:2 227:25
56:12,17,23	210:18	71:17 136:1	229:16 264:18
57:9,12,14,16	mail 184:14	186:14 256:1	market 72:12
58:6,11 59:9,12	mailed 132:1	malcolm 40:23	marketing 1:4
59:14,20 84:4	184:11	male 250:5,5,7	marking 78:4
84:18 86:9	main 22:3	250:8	160:15 167:22
89:23 90:3,7,9	maintain 190:9	malignancies	228:1 229:3
93:13 94:7,11	maintaining	254:22	married 132:4
95:23 97:19,24	164:7	malignancy	132:6
105:8,14,19,21	maintains	210:21	mas 1:6
124:9 141:7	106:19	malignant	mass 244:14
185:15 192:25	major 13:15	153:4 154:17	massive 57:11
193:21,23	14:1 15:19	154:21 211:13	material 182:7
	250:2		186:4 188:9,17

[material - memory]

Page 40

198:21 199:22	mcdonald 3:6	188:3 194:2	medical 1:10
199:25 203:18	85:2,19 93:14	196:8,25	3:8 6:5,7 9:12
215:16 238:6,8	100:8,10 104:8	201:18 202:16	15:16,17 16:3
243:12	104:23 265:5	210:15 213:4	16:11 17:18
materials 25:13	265:10 266:2,6	216:17 222:20	39:11 51:16
44:4,8,10	266:18 267:4	223:4 232:24	63:6,13 64:5
132:20 165:20	267:11	234:17,18	81:24 131:9
185:9,14	mcw 9:17,19	236:14 241:1,7	144:24 145:2
190:22 192:25	10:17 11:5	249:18 250:20	149:18,21
200:21 203:10	16:12 17:25	252:15 273:19	151:6 160:24
215:8 224:16	18:3 63:17	276:17 277:10	162:8 167:23
243:3	64:14 256:15	meaning 9:25	168:11 172:2,6
maternal	md 1:9 4:2	13:21 14:18	173:7 219:2
144:13,15	280:18	20:15 28:8 36:4	244:20,24
173:23,24	mdl 1:6 8:16	46:20 51:9	251:18 253:24
204:13,15	189:12 190:14	61:11 134:11	254:12 274:3,7
218:1 225:19	201:23	148:23 149:1	276:14,15,20
225:19,20	mean 16:15	178:25 185:7	medications
245:13,14,15	25:8 26:19	185:10 211:9	17:11
245:17,23,24	45:13 48:17	233:6 273:19	medicine 10:9
246:6,11,23	49:7 58:14	means 24:5	43:4 53:4
247:4 248:13	62:19 66:19	69:8,9,10 95:17	medicolegal
matter 20:13	69:12 76:1,22	123:9,11	63:10 161:13
20:17 71:18	76:24 78:10	148:10 179:20	meet 9:10
75:5 120:12	80:22 83:19	219:12 250:15	253:19,22
132:22 188:16	97:16 101:2	277:14	meeting 5:12
190:24 203:12	102:9 110:23	meant 17:1	5:14,17
215:10 216:18	116:10 126:5	measure 57:8	meetings 26:10
216:24 224:18	140:18 141:9	mechanism	64:23
272:7,10 280:6	141:10,21	21:11 36:20	member 174:1
mattered 272:4	150:5,6 157:12	81:14 106:10	membrane
mature 250:21	158:9 159:18	113:21 239:16	180:4
maximum	168:8 171:18	248:3	membranes
255:11	171:23 182:20	media 72:24	159:13
mcdevitt 2:10	184:17 186:10	mediators	memory 49:1
	186:18,24	105:24 200:12	165:10

[menstruate - mineral]

Page 41

menstruate 110:3	metals 73:17	microinvasion 134:3	microscopy 12:10 56:23
menstruated 107:25	metaplasia 60:22	microinvasive 135:5,13,16,20	85:18 87:7,18
menstruation 81:17,19 83:3 109:14 179:22 179:23	metastases 179:6 180:18	135:22	87:19 89:17
mention 43:19 142:16 149:10 156:10 211:17 213:15 227:19 228:5 231:20	metastasis 174:14,25 175:4,19,21 176:3 178:19 244:16 258:8 273:12 274:2	micron 151:1 158:13 212:9 212:11	91:12 92:1,15 93:12 94:17,20 96:5 129:24 130:5 131:11 186:5,22 255:24 256:4
mentioned 24:4 38:22 44:17 63:3 64:3 68:9 108:10 126:3 164:14 185:16 226:17 228:23 248:12 253:21 272:12 278:4	metastasisize 179:16,18	microns 54:9 54:11,18 151:2 158:7,10 211:13 272:13 272:19	middle 164:22 177:22
mesothelial 124:11	metastasized 171:9,9 180:11	micropapillary 134:6,9,12,19 134:20 146:17	migrate 111:9 111:21,25 112:4
mesothelioma 118:6 121:24 122:8,9,9 126:17 127:1 127:25 128:16	metastatic 166:10 168:20 169:8 175:10 178:2,13,16 179:1 244:14 274:14	microphage 53:10	migration 85:16 98:19
mesotheliomas 126:13 127:3,5 128:13	method 87:2 103:18 179:10 180:21	microscope 51:7 58:1 100:15 101:15 104:18,20,22 105:5 188:3 198:24 261:9	millimeter 255:12,14,16
met 253:23	methodologies 266:2	microscopic 104:25 118:10 166:24 168:3 228:10,20 229:15,24,24 230:3 239:12	millimeters 135:24
meta 40:7,11 40:18,19,24 41:2	methylation 65:25	microscopist 93:16	million 76:3 162:17 164:23 165:1
	mhegarty 2:8	microscopists 131:17,20 187:24	millions 125:18
	michael 66:2		milwaukee 1:11 279:2,10 279:20
	microbacteria 58:20		mind 15:5 18:17 39:19 51:25 52:8 104:7 217:8 245:11
	micrograms 28:3,4		mine 40:22
	micrograph 99:4 188:2,4		mineral 89:3,3 89:4

[minimal - mutations]

Page 42

minimal 14:22 57:17 74:21	mistakes 19:21 20:9,10,24	month 257:2	187:23 224:9
minimum 74:1	22:10	morbidity	moving 124:14
minus 101:6,22	misused 68:12	192:16 213:12	165:15 190:12
267:25 268:1	mitogen 28:8	morning 4:7,8	214:24 248:17
minute 45:21	mo 2:7	morphologic	mucin 14:25
171:6,13	mobile 124:14	134:10,17	15:1
254:12	mode 91:22	147:8 249:15	mucinous
minutes 12:6	92:25 94:12	morphological	250:8
12:13 29:7 59:8	186:5	211:24	mucosa 76:25
163:8 202:24	models 200:13	morphologic...	78:24 79:1,14
277:23	200:15	122:3 221:20	79:22 80:3,23
misclassificat...	moderate 57:15	morphologies	82:3,4,8,10,25
126:4	181:13,15	104:11	109:5 261:17
misclassifies	modify 12:11	morphology	265:3
122:19	243:20	86:25 104:9	mullerian
misdiagnose	molecular	118:18,23,24	244:15 249:17
127:24	11:13,13 66:13	123:14 125:24	249:18,19
misidentified	174:24 177:23	126:2,20 127:4	250:12,15,25
130:23 270:4	274:8,10	133:22 237:7	251:3,4,6
270:15	molecule 19:25	morris 48:11	multi 52:25
mismatch	20:4,5	mother 204:11	multinucleated
19:11,13 20:3,5	molecules	204:24 245:14	53:10
20:11 21:10,15	13:20,20 25:11	245:23	multiple 15:20
22:10,19,22,22	25:24 212:8	mother's	85:16 87:7
22:25 26:16	240:7	204:25 205:7	225:17
33:20,22	molten 271:7	248:13	mutants 30:23
143:11	money 50:17	motile 124:17	31:1
mismatched	monograph	179:25	mutation 18:11
19:9,9 28:14	263:10	motility 81:15	18:12 20:19
misrepresenti...	monographs	113:17,18	21:18 22:2,23
46:21	263:11,13	179:20	29:1 31:7 33:23
missed 212:14	mononuclear	motivated	34:3,7 125:8
missing 207:10	168:23	38:16	155:17 192:6
mistake 202:18	montgomery	move 4:12 14:3	276:24 277:18
230:6	2:3	117:1 124:17	mutations
		128:19 180:3	18:19 19:7

[mutations - noncommittal]

Page 43

20:21 21:9,12 22:19,20,20 23:1 26:17 28:22 31:14 32:17,22 33:4,8 33:9,11,15 107:19,21,22 108:1,5 123:11 142:12 143:8,9 143:10,15,17 144:4,6,9 192:2 205:22 206:6,9 206:13 218:12 226:4,9,14 257:12 258:12 261:7 mute 18:13 mychart 254:14 myeloma 225:18 myometrial 178:19	naturally 185:10 nature 4:21 178:2 188:15 274:14 nci 164:23 near 208:21 235:13 244:12 necessarily 98:9 necessary 46:4 86:5 100:6 102:12 134:19 232:2 271:21 necessity 70:23 necrosis 220:5 220:8,11,12,13 220:17,23 necrotic 58:10 need 4:21 11:2 14:3 18:14 29:1 29:5 38:2 60:9 105:18 115:22 129:16 133:17 139:22,24 177:2 179:18 180:15 189:16 199:15 200:22 207:1 224:10 needed 227:10 needle 9:15 244:6,7,13 249:8 needless 19:19 111:5	needs 37:15 109:20 negative 61:5 130:22 174:8 206:19 neglected 224:7 253:4 neighborhood 5:6 140:13 162:16 neither 144:16 144:20 173:25 218:4 neoadjuvant 57:3 58:5,23 220:15 neoplasia 124:12 neoplasm 166:20,22 167:6 168:5 191:6 203:19 215:18 225:1 229:22 neoplasms 117:15 142:3 178:15 neoplastic 206:24 207:22 207:23 never 8:15 15:5 18:1 27:3 48:8 48:9 51:24 52:8 63:4 140:25 175:6 189:25 197:20 198:17	199:6 200:1 201:8,11 214:15 251:25 262:19 new 1:2 40:11 137:24 189:15 189:22 190:16 213:21 222:8 222:10 223:11 256:22 nice 228:8 nickel 73:18 nico 197:5 ninth 110:8 nj 2:11 node 84:11,18 84:21,21 97:20 97:20 99:6,7,11 198:11,12 237:17,24 nodes 84:15 86:9 87:12 141:8 179:12 180:18 193:25 194:10,21 non 14:13 30:23 57:6 93:2 147:13 182:10 182:24 183:2,5 183:24 184:25 204:14 206:24 207:22,23 245:16 noncommittal 166:7,13,23
n			
n 2:1,14 4:5,5 195:21 253:11 253:11 278:2,2 naked 55:12 name 7:7 13:20 14:20,22 46:16 47:2,17 65:7,19 161:8 230:2 named 15:4 narrow 118:14			

[nondesmoplastic - objection]

Page 44

nondesmopla... 146:18,21 147:10 noninvasive 133:20 137:8 146:17 nonpapillary 127:20 nonspecific 240:4 nonstarter 200:17 nonviable 20:15 noon 116:16 nope 84:7 189:13 normal 18:6 19:11 21:23 59:21 106:19 106:21 220:18 233:11 234:22 239:17 258:21 258:24 normally 59:23 108:2 234:21 notary 279:4 279:22 note 158:6 notes 253:6 notice 6:17,19 163:22 201:16 230:1 noticed 228:22 231:12	notion 26:3 notions 62:23 nucleated 52:25 nucleus 211:14 211:15 241:19 241:20 nulliparity 144:25 number 31:14 35:8 65:16 121:24 125:7 127:16 140:16 160:16 207:9 208:2 211:2 216:8,8,15,24 220:22 239:19 254:23 265:4,7 265:9,13,21 273:3,4 numbered 164:21 numbers 30:18 31:9 59:13 numerous 89:21 94:5 96:12 157:8 159:16 nurse 162:7 nurses 275:4	o'brien 156:16 195:21 196:17 196:17 274:20 274:24 275:2,6 275:7 o'clock 12:1 oath 4:3 63:14 280:13 ob 10:3 11:4,5 11:23 254:21 obese 172:23 173:15 obesity 145:1 145:14 172:2 172:10,19 object 29:11 34:4 47:5 53:2 75:24 87:24 90:4 128:2 181:14 198:1 216:3 259:25 objection 16:24 18:23 22:17 23:8 24:2 26:5 31:15 33:24 34:13 36:2 37:1 37:10 38:10 39:1 42:9,24 43:11,21 46:19 50:25 51:17 52:16 53:22 54:14 55:5,18 59:10 60:5,24 61:7 62:12 63:2 67:23 68:24 69:21 70:3,15	71:4,13 72:2 73:13,21 75:1 75:17 76:12 78:11 80:15 81:10,18 83:4 84:8 88:4,19,23 90:25 91:20 92:6,10,16 93:18 94:21 95:2 96:7,20 97:6 98:2,11 99:12 100:21 101:11 102:7 102:23 103:9 103:24 104:13 105:17 108:17 109:12 111:11 112:2,12,18 113:14 114:6 114:14 115:3 115:12 117:7 120:22 121:4 121:16 122:15 124:5,23 129:10 130:11 130:20,25 131:6 133:14 139:6 142:19 146:3 149:24 150:15,24 151:9 152:14 153:1,18 154:12 155:3 156:22 157:3 157:21 170:6 174:19 186:8
	o		
	o 4:5 9:15 13:18 115:25 195:21 253:11 278:2		

[objection - okay]

Page 45

187:11 188:22	227:4,7 231:14	212:20 220:17	33:16,17 34:11
196:12,20	231:16,23	254:24	39:9,14 44:12
200:4 201:4	237:21 278:5	odds 21:17	45:1,13,18 46:9
216:19 222:5	observing 54:2	125:8	46:12 47:19
222:14 226:6	obtained 13:14	offer 23:24	50:10,12 51:4
235:14 240:19	obvious 12:12	38:25 117:4	51:13 53:11
242:10 246:15	222:21 236:21	132:15 136:10	54:25 59:12
247:8 260:4,13	obviously 27:11	165:18 190:19	60:8,13 61:25
262:15,22	36:14 40:18	203:7 215:6	63:12,25 64:9
263:5 265:14	80:22 81:15	224:13 243:1	65:14,19 68:1
265:24 266:9	86:14 119:15	259:2,5 280:12	69:11 73:1
267:7 270:8	121:23 139:9	offered 96:22	78:17 79:3,14
277:5	152:2 177:1	offering 63:8	79:17,19,23,24
objective 86:18	179:19 205:17	63:14	80:13 82:1,9,14
obliterate	occasionally	office 45:21	85:11,14 86:17
149:12 152:3,5	20:19 27:19	279:19	89:9,10 90:5
obliterated	105:21 111:2	oh 25:8 30:17	92:13,20 93:23
152:7 222:13	occur 18:25	44:14 56:25	94:24 95:5
observation	22:11,20 43:9	65:21 82:14	96:15 97:22
193:25 194:7	107:11 128:13	85:11 90:17	99:3,7,17,19
232:15	142:9,23 159:7	113:15 143:25	101:22 103:14
observation's	188:19 235:24	162:22 175:21	104:3 105:23
255:3	254:10,11	178:10 210:4	110:1,4 111:8
observational	occurred 20:17	212:5,9 218:22	112:6 116:16
85:7	63:4 159:3	228:8,8 230:19	116:22 122:6
observations	226:23	255:14,15	123:8 124:3
92:15 94:18	occurring 20:8	okay 5:3,16 6:5	125:22 126:16
147:16 174:15	142:10 185:10	6:9 7:7 8:8,13	127:21 128:12
255:2	227:20	8:18 9:18 12:2	131:23 134:5
observe 56:23	occurs 26:23	12:14,15 16:14	135:15,18
136:13,20,25	40:21 55:10	18:14 22:3	136:1,5 137:3,4
observed 60:19	69:25 81:6	23:17 24:15	137:10 138:19
101:9 105:4	106:4,12	26:22 27:6	139:16 140:5
119:11 133:23	124:12 147:1	29:16 30:17	142:25 145:6
136:2 193:22	158:20 170:2	31:19,22 32:7	146:9 147:3
199:21 222:24	179:13,14	32:14,20 33:6	148:12 149:1,7

[okay - opinions]

Page 46

151:6,18 154:6	234:24 235:23	206:18 262:4	95:25 111:8
154:24 155:7	236:2,4 237:6	278:19	113:9 114:9
155:21 157:16	237:11 239:10	ongoing 63:8	115:14,15
158:3,12	241:17,22	69:12 71:3,7,11	117:9 119:24
159:21,25	242:24 244:9	71:11 151:22	120:18,20
160:12,23	244:12 245:6	open 17:15	121:21 122:11
161:4,7,22	249:6,15 250:2	264:10,10,19	132:18 133:5,7
163:19 164:9	251:9,23	264:20	133:21 134:23
165:13 167:16	261:21 264:15	opened 44:21	137:23 142:17
168:1 169:15	268:10 278:22	opens 27:13	143:4 165:24
169:16,24	old 7:2,16	operate 24:13	166:9 168:15
170:20 171:23	143:16	131:17	171:7 174:9,12
175:9 177:6,14	oliva 115:23	opine 18:11	176:3,8 180:10
179:24 180:7	omentum	39:3 166:13	181:18 191:7
181:18,21	57:23	180:20	195:7,14
182:1,16	omission	opined 14:10	202:12,19
183:16,20,23	242:23	67:18 107:13	203:20 213:13
184:24 185:22	once 9:13 19:25	113:10 168:12	213:19 215:21
186:13 187:1,8	21:24 27:25	opining 62:21	216:8 217:3,14
187:23 190:12	56:3,18 108:4	130:23 184:25	222:18 223:7
190:15 191:25	128:18 140:25	opinion 16:6	225:13 232:5
194:6,19	151:22 152:6	17:17 19:4	233:25 234:10
196:16 197:6	252:16	23:17 28:21	236:4,9,12
199:12,17	oncogenesis	30:12,19,22	238:19 243:14
200:7 201:15	26:1,23	33:22 35:24	244:8,23 245:6
202:22 207:17	oncologist	36:11 38:23	245:19 246:14
208:1,15,18	254:16,18	39:14 40:5,17	248:24 249:1
209:12,18,22	oncologists	50:7 52:12	251:20 263:2,6
209:24 210:6	136:19,20	60:20,25 61:2	268:14 271:1
210:20 211:5	137:6,9	61:20,23 63:8	272:4 276:8
211:17,22	oncology 10:4	67:10,11,19,20	opinions 23:25
214:24 215:5	oncotic 24:20	71:20,24 73:11	38:25 41:5,6
219:17,20	ones 44:23	73:19 75:14,22	44:9 50:4,6,22
220:4 221:2,5	67:15,17 73:4	76:15,17 81:17	51:20 52:11
222:23 224:9	125:11 170:4	84:14 89:2	63:13 64:1,10
230:19 234:17	183:22 187:4	92:20 94:9,22	67:5 72:5,9

[opinions - ovarian]

Page 47

98:9 115:9	233:16,19	outgrew 220:24	143:17,20,21
117:4 120:8	252:16 273:1	outgrow 58:9	144:3,18,22
132:15,19,22	organic 159:12	outline 15:18	145:5,15 155:8
133:12 134:2	organically	16:25	155:10,13
137:14,22	122:3	outlined 21:2	156:6,15,18,20
153:15 156:11	organism 53:14	outside 9:10	156:25 164:15
156:17,25	organisms 69:3	219:15 239:6	164:20 166:6
165:17,22	organized	outstanding	166:18,20,22
175:9 176:16	62:13 129:17	162:19	170:20 171:8
190:19,24	organs 13:15	ovaria 250:7	172:3,7,11,17
191:12,16	13:22 119:14	ovarian 12:4,10	173:8 174:2,13
195:9,20	169:5 179:13	14:6 15:15,18	174:13 175:3
196:25 202:9	180:19 194:16	15:19,22 16:22	180:25 181:4
203:7,12,25	250:18,19,23	17:1,2,9,13,17	186:21,25
204:5 215:6,10	orientation	17:18 18:7,20	192:7,13 197:9
217:11,20	188:1	18:22,24 19:5,8	202:10,14,14
224:13,18	oriented 208:20	26:22 27:7,8	202:20 203:17
225:6,11 243:1	origin 237:8	29:8 30:1,14,18	204:9,22 205:2
243:5,18 259:3	244:16 249:17	31:5,6,12 32:16	205:4,14,20
259:5 260:17	249:18,20	33:4,7,18 39:6	206:11,14
268:6,8 271:22	250:15,17	42:17 46:17	215:23 216:12
272:7 274:1,17	251:1,3,4,6	51:6,21 52:9	216:14 218:6
275:19,21	257:17	56:22 57:1	218:14 219:1
opportunity	original 3:20,20	58:17 63:1 64:8	221:3,4 225:14
13:12	originally	64:22 65:1,8,9	225:22 226:10
opposed 57:2	176:2	65:18 66:1,22	226:15 241:24
126:17 151:15	origins 258:10	66:24 67:3,7,19	244:16 245:7,8
188:3	ors 256:17	70:9,13 84:3	245:12,22,25
optional 57:6	outcome 40:25	86:20,22 97:25	246:6,11,12,23
169:12	200:17	113:4,7 114:10	247:2,2,5,10,12
order 11:21	outcomes 135:4	117:6,10	247:14,19,24
78:19 123:18	outdated	120:13 122:14	254:5 255:25
132:2,6,7,9	142:18	122:19 126:7	256:10,12,15
170:2	outer 169:1,14	126:18 127:1,1	256:22 257:11
organ 56:10	219:14	127:4,11,14	257:15,16,17
61:11 85:17		142:23 143:14	258:11 259:4

[ovarian - paragraphs]

Page 48

259:18 260:18	179:5,17	p.m. 1:13	pap 41:19
266:8 268:7,15	180:11 185:6	278:25 279:12	paper 91:4,19
274:2,5 275:23	194:24 201:2	page 2:16 3:2	95:18 98:20
277:13,20	204:20 212:16	32:1 85:9 87:16	266:18 268:16
ovaries 51:11	217:17 218:18	94:2 143:14	268:16
52:2 67:20,22	219:10,21	144:11 147:21	paperwork
70:2,20 77:5,14	221:1 223:9	149:9 155:7	190:10
78:18 86:9,10	226:25 232:17	156:10 167:8,9	papillae 134:11
87:13 98:4	232:19 233:23	167:13 177:23	134:12,13,14
109:11 111:25	233:25 234:4,7	180:25 182:1	papillary 127:5
121:3 157:8,11	234:22 235:1,9	188:6 192:21	127:18,20,23
157:18,19	235:9,12,17,18	195:18 206:22	127:23,25
191:21 198:15	236:5 237:4	207:19,24,25	134:7,22
198:16 201:13	248:6 258:6	208:5 210:8	papilloma
216:22 217:3	273:11	211:17 226:21	21:21
226:19 229:18	overall 33:1	237:11 244:12	paraf 158:21
229:19 252:10	166:20	244:20 251:15	paraffin 159:14
ovary 27:12,12	overgrown	268:11	159:15,16,23
27:14,16,22,23	233:8	pages 164:21	271:8
27:25 28:4,17	overlap 150:7	paid 47:19	paraffination
29:21,24 30:4	overwhelming	161:17 162:14	158:21
30:11,24 31:3	19:10,10	162:19	paraffinized
51:9,9 66:4	ovulates 27:13	pain 61:12,13	159:5
70:22 81:9 84:9	owe 162:20	pair 20:12,14	paragraph 85:6
84:11 98:15,16	own 22:10,14	pairs 19:22	140:19,20
105:12 107:11	34:2 183:1	22:22	142:16 143:13
107:14 113:20	249:4	panacea 39:22	147:20 157:6
113:24 114:13	oxygen 23:4,13	pancreatic	158:3,6 177:22
122:4 126:14	23:14,19 24:18	144:14 204:13	186:15,16
126:17 128:1,8	25:1 68:20,25	245:15	188:6 191:25
142:23 143:8	258:15,16,18	panel 127:12	192:21 195:18
166:21 167:1	258:21,23,24	174:7 192:1,5	197:17 200:10
169:8 171:10	p	205:24 206:2	219:7 233:17
171:21 172:15	p 2:1,1 195:21	206:15 218:8	271:14
173:14 174:23		226:1,8,13	paragraphs
175:10 176:2		238:16	32:8,9 85:7

[parameters - pathologists]

Page 49

parameters 57:5 pardon 278:15 parietal 108:2 128:14,17,22 129:1 parity 145:4 part 6:15 18:5 32:13 47:8 49:21 66:11 74:10 79:1 124:3 130:7 149:7 159:4 168:8 189:12 194:15 207:10 208:18 209:1,8 209:15 210:15 210:16 233:16 250:6,7 252:4 258:21,25 274:24 participate 11:9 participated 42:16 189:20 particle 54:9,23 55:3,12,17,24 88:17,21 99:20 103:6 118:11 118:16 154:25 158:1,7,13 192:25 197:21 197:22 198:18 198:25 199:7 199:21,23,24 200:1 272:25	278:8,11 particles 54:4,7 54:7,17,19,21 84:17,19,20 86:1 87:10,17 87:22 88:3 90:7 90:8 91:7 92:22 93:2,3,9,11 94:11 96:1,12 96:16 97:4,10 97:19,21 98:14 99:4,9 100:2,19 101:16,18 102:3 111:20 111:24 112:3 130:24 139:4 139:14,20 141:7 147:23 147:24 148:5 148:24 149:1 150:4,9 157:24 159:15,16,24 182:10,14,15 182:24,25 183:2,3,5,25 184:3 185:1,6 186:2,23 187:2 187:3,8,16 193:21 195:3 195:12,15 197:11,14,16 198:9 199:10 212:8 216:22 222:24 223:1 224:25 237:15 237:21 238:15	239:2,5 240:11 240:13,14,18 240:24 241:5 259:10,23 266:14,15,19 266:25 267:13 267:15,19,21 270:4,15,20,24 271:2 272:12 272:18 278:13 278:16 particles's 55:4 particular 36:10 70:1 116:4 195:15 271:4 274:9,23 particularly 58:22 66:21 268:15 particulate 188:8,16,17 193:2 particulates 89:22 94:6 95:23 parties 46:11 279:15 partly 197:20 208:16 parts 61:23 62:10 76:3 106:5 168:11 194:22 pass 82:5,25 passage 159:14	passes 128:10 past 9:1 11:13 15:10,13 67:2 72:11,11 140:9 160:5,7 paternal 204:11,12 217:25 path 81:7 147:17 pathogenic 192:2 206:6 226:4 pathological 137:14 pathologist 9:9 10:18 11:1,4 13:11 59:4 93:21 117:15 126:23,24 127:22,22 128:5 130:13 133:9,13 135:13 137:4 147:5 157:9 166:1,4,5,12,16 169:19 191:8 191:13 194:1,2 203:22 204:1 213:1 217:15 227:19 232:9 232:11 256:14 pathologist's 136:22 pathologists 9:22,23 15:3
---	---	---	---

[pathologists - perineum]

Page 50

59:7,13,21,24	255:25 277:18	234:22 235:1	154:23 165:11
60:2,3 127:9	patient's 18:21	237:25	169:2,11,13,22
131:20 162:3	205:7 270:7,20	pen 209:23	236:10,14
193:2 213:15	272:1,6	penalty 280:3,4	261:19 267:25
213:17 243:23	patients 6:8 9:5	pending 189:2	268:2
pathology 3:9	9:10,16 10:21	penetrate 82:7	percentage
3:17,19 9:24	18:1 28:21 87:3	penetrates	30:20 108:7
10:6,7,8,9,13	87:10 149:12	128:10	127:17 134:20
10:14,19,23	152:11,18,18	penn 25:17	154:20 173:13
11:5,23 41:17	152:21,24	people 15:2	205:13,14
45:8 50:22 53:4	153:14 154:9	16:5 28:19	235:23 246:11
59:3 85:21 95:6	253:19,22,23	36:15 37:23	247:14
100:9,10	254:4,13	40:12,13 41:13	percentages
114:25,25	257:13 266:6	42:7 58:8,13	76:4
115:2,16,20	276:4	83:20,22	perfect 57:19
116:4 133:1,16	paul 2:10	110:14 125:10	perfectly 88:13
134:2 146:14	pause 207:2	125:12 136:12	217:7 232:12
147:24 148:7	pay 161:5,18	168:13 173:14	perform 152:17
153:8,9 161:10	paying 273:6	244:3 252:9,19	performed
166:25 167:23	pearson's	256:19	153:11
182:12 184:1	176:24 195:19	percent 14:16	performs 18:9
191:3 193:10	peer 95:14	30:1,14,18,23	perfuse 194:14
203:16 215:14	268:3	30:24 31:2,3,5	194:15
219:8,24	peers 95:17	31:6,10,12	periaortic
224:22 227:24	pelvic 61:12	32:15,22,25,25	193:24 194:10
228:2 229:5	70:7 84:15,21	33:1,3,6,9,11	195:2
231:21 243:10	85:17 86:21	33:12,12,14,17	perineal 87:5
248:18 255:9	87:7,12 107:1	33:17 35:2,5	110:16 155:11
256:16 261:21	144:25 145:13	36:1,15,17	156:5 157:10
patient 9:8,14	194:19	75:19 76:10	157:11,17
17:24 18:6 45:9	pelvis 52:5,13	88:8,16,16,17	181:3 198:4
56:22 59:8 87:4	54:3 60:17,22	99:21 100:17	216:12
135:9,25	61:6 84:11	100:18 101:6	perineum
137:12 138:25	107:2 108:1	101:22 127:11	71:22 73:12
152:10 153:12	194:20,22	127:14,18	75:23 76:18
185:6 254:13	195:12 233:13	137:6 154:22	77:9 82:18

[perineum - pleural]

Page 51

84:22 85:16 87:8 98:16 195:11 period 55:15 peritoneal 67:6 67:12 118:6 122:7 129:2 215:22 peritoneum 57:24 119:20 119:22,22,24 120:4 121:3 128:7 134:18 perjury 280:3,4 permeable 159:14 permeate 159:23 persistent 123:6,9,10 person 15:4 22:22 88:6 197:3 230:1,18 230:19 person's 51:10 254:17 personal 16:6 120:11 153:8 193:8 214:16 249:5 279:7 personalized 11:22 personally 6:24 72:19 pertaining 3:7 160:17	pertains 216:13 phag 55:7 phagocytize 55:3 phagocytized 54:20,21 151:3 phagocytosis 55:1,8 267:15 pharmaceutical 149:15,21 150:5 151:7 161:14 pharmacologic 28:2 30:3 phcmc 167:25 phenomenon 23:12 29:7 phillip 48:11,18 phone 254:19 phonetic 25:16 photo 99:4 209:8 photograph 91:18 208:19 227:1,8 231:23 238:22 239:13 photographed 237:15 239:8 photographs 54:18 188:21 206:22 211:21 227:1 photomicrogr... 44:19,22 45:25 46:4 104:21 214:5	photos 242:15 phrase 182:22 physical 37:16 physically 123:13,14 physician 146:1 physicians 70:5 71:10 85:19 145:24 191:17 204:1 217:21 225:3,7 243:19 254:3 physics 35:7 58:3 88:9,12 physiology 258:22,25 pic3a 107:21 pick 11:15 picking 11:12 14:2 picture 232:5 pictured 207:24,25 pictures 207:24 piece 20:18 24:24 27:20,21 piercing 129:5 pike 40:23 pinch 27:19 pink 79:1,5 place 24:1 40:10 55:11 125:8 169:23 204:18 places 59:5	plaintiff 44:14 177:11,16 182:2 275:13 276:20,23 plaintiff's 228:1 229:4 271:11,20,24 275:14,23 277:1 plaintiffs 2:5 120:17,20 257:10 266:7 276:15 plan 162:23 163:1 plane 148:1 plank 1:11 279:10 planning 255:4 255:8 plate 104:12 platinum 136:9 136:23 play 112:16 275:22 please 4:23 73:22 191:9 pleura 119:16 119:17,19 128:11,14,17 128:20,22 129:1 pleural 149:12 149:13 150:12 151:23 152:3
--	---	---	---

[pleurodesis - predominant]

Page 52

<p>pleurodesis 149:10,16 150:9 151:14 152:12,17,24 153:9,12 154:3 154:10,21 plica 265:2 plm 266:20 plump 110:11 plus 101:5,22 159:23 267:25 268:1 plutonium 74:18 pmn 240:3 pmns 240:4,10 240:15,17,25 241:5,15,17,19 point 6:16 7:16 16:3 26:13 41:15 46:4 50:15 55:24 87:21 89:11 102:14 103:16 152:6 176:19 188:21 193:11 207:1 208:13 220:19 235:21 255:11 pointing 79:18 208:22 points 184:10 polarize 60:3 195:3 256:7 278:6,7</p>	<p>polarized 12:9 87:6,18 187:18 199:2,13 222:25 255:23 256:3 polarizes 278:10 polarizing 12:8 polycystic 172:3,17 173:8 173:14 polymerase 19:25 polymor 239:22 polymorphisms 66:3 polymorphon... 239:9,24 pool 205:11 pop 21:6 population 33:1 positive 89:22 94:6 96:12 possibility 23:7 28:14 possible 11:21 47:17 113:21 127:24 128:3 157:25 173:23 175:2 197:13 197:15 230:14 244:14 possibly 47:3 113:19 162:16 180:15 182:5</p>	<p>219:6 posterior 264:23 postsurgical 238:10 postulate 43:7 postulated 179:4 potential 65:17 86:24 145:18 200:12,16 264:16,24 268:20 269:2,4 276:21 potentially 128:8 200:20 255:25 powder 1:4 38:20 51:21 71:21,25 72:1,6 72:8 73:10,17 73:20 74:22 75:14,15,20,22 76:3,11,18,24 77:16 100:14 101:9,14,19 104:18,20,22 105:3,4,5 137:17,17 140:23 141:2 204:4 213:19 216:11 217:2 217:11 225:10 259:4 260:18 262:7,12,14,17 262:20,25</p>	<p>263:3 270:7,21 271:21 272:2,7 272:8 powdered 52:4 powders 197:20 198:6 powerpoint 16:10,16 practical 136:21 practically 68:17 184:6 practice 41:3 58:15 155:25 156:8 253:19 practices 1:4 pre 41:25 61:19 preceding 160:2 279:6 precise 103:5 139:3 preconceived 62:23 precursor 155:10,13 156:6 229:21 273:25 predicted 40:24 predictive 205:17 predicts 41:24 predisposition 31:13 predominant 14:12</p>
--	--	---	--

[predominantly - progress]

Page 53

predominantly 57:8	pressures 24:20	probabilities 22:2 125:6,14	268:22
preexisting 251:17	presumably 119:22 139:3	probable 172:3	processed 158:23 188:9
prefer 115:9	151:6 185:8	probably 5:6	193:1 238:13
138:15	presume 4:25	5:19 8:5 9:7	269:5
pregnancy 172:4	110:7	13:4 15:4 18:12	processes 56:4
preparation 5:21 6:10	pretty 21:7	19:7 21:24	56:10 70:6
prepare 5:17	25:9 33:14 66:8	30:23 43:2 49:1	141:25
7:2 49:25 215:1	148:17 152:9	52:6 55:22 56:9	processing 148:13,14
prepared 13:3	163:18 196:4	62:22 66:7	158:22 159:3
preparing 5:4	228:7 268:25	72:14 74:15	193:4 237:16
176:15 271:7	prevent 24:20	78:2 83:24	271:3,5,6
presence 9:11	110:19,20	103:5 111:4,4	produce 6:23
57:8 185:22	113:19 114:11	116:19 121:10	22:21 223:24
192:24 240:18	prevention 13:1,8 113:23	127:10,14	224:1
present 32:5	prevents 113:10 114:3	140:14 173:6	produced 14:25
51:8 83:13	previous 158:18	179:4 214:12	163:22,23
133:3 173:15	previously 242:9	228:22 231:9	242:17
180:19 188:16	primaries 166:8	232:18 255:20	product 6:14
210:2 223:22	primarily 81:6	262:12	37:8,9 48:16
227:13 229:18	primary 66:24	problem 35:6	72:10,17 112:9
233:1 238:7	67:6,11 166:22	123:19	159:2,20
240:6 255:12	178:1 274:13	procedure 151:14 152:12	262:24
presentation 15:14 16:10	printed 228:17	procedures 149:16	products 1:4,5
17:5	prior 9:16	proceedings 4:1	137:18 212:2
presently 12:19	11:11 62:3	process 24:1	professional 1:14 279:4
14:5	223:23 259:16	38:14 51:12	profibrotic 13:21
press 66:2	259:19 260:7	55:1,8 60:23	progesterone 252:7
pressure 92:4,8	270:21	63:17 69:12	prognosis 135:6
92:14 188:13	prm 267:1	71:11 87:21	135:24 178:15
188:13		110:21 158:20	progress 20:21
		159:4,6,8	108:6
		220:18 259:20	

[projects - question]

Page 54

projects 12:20 14:6 proliferation 252:8 proliferative 211:9 prominent 210:1 promised 99:19 prompt 132:18 prompts 261:7 pronounce 87:20 proof 103:18 proper 23:6,20 88:6 136:7,24 264:12 properly 22:13 66:7 130:18 133:8 165:25 191:8 203:21 217:15 220:20 225:3 243:15 properties 187:10 278:14 property 149:10 proportion 31:1 proposition 102:2,15 prospective 39:3,5,15,21 40:1,3,25 41:24 197:7 200:23	prostate 245:14 protect 74:7 protective 80:6 82:21 113:6,10 114:10,21 protects 80:11 protein 20:11 21:22 212:12 proteins 21:16 22:21 26:20 prove 36:19,19 78:17,19 266:15 proved 37:5 174:8 proven 38:9 40:20 69:3 170:24 provide 5:20 6:5,10,20 7:18 11:21 16:15 42:20 43:1 163:5 176:20 184:8 186:1 188:15 201:17 215:21 216:7 256:20 276:14 277:2 provided 3:21 5:23 6:13,21 7:19,23 8:1 44:6,7 47:8 49:9 139:2,10 139:12,16 159:25 163:3 177:7 183:12	183:13 184:10 268:7 providence 3:8 167:23 provider 254:15 providing 184:9 psmyth 2:12 public 16:13 279:4,22 publication 13:4 14:6 21:3 21:4 65:4,10,23 95:15 268:3 publications 12:20 13:9 66:6 66:11 97:24 98:24 152:19 193:11 214:11 256:10 publish 12:21 42:3 236:23 published 13:23 38:19 41:9,18 64:25 67:2 84:2,6,10 85:20 90:24 91:4,19 95:7,19 98:10 117:17 126:22 159:18 165:6,7,9 268:3 pubmed 21:6 116:5 pull 268:8	pulmonary 152:17 153:5,9 punctures 123:16 pure 244:5 purple 118:12 purport 111:24 purpose 136:1 140:1,2 purposes 89:11 199:23 pursue 38:16 put 5:24 12:15 19:24 21:6 24:17 40:16 63:21 82:19 129:16 145:7 152:4 195:12 209:14 221:3 246:17 252:8 252:11 257:18 258:20 puts 20:2,7 247:18 putting 20:1
q			
qualified 131:16 qualify 29:17 quantify 76:22 quantity 77:6 157:12,13,14 157:19 185:23 question 23:13 41:4 42:25			

[question - really]

Page 55

46:23 48:6 50:18 55:20 60:19 61:19 76:2 102:12 110:18 115:13 115:21 153:3 154:19 155:5 163:13 165:3 176:7 181:5 184:4 197:10 199:24 214:25 218:20 221:18 231:19 235:10 244:10 253:3 265:16 questions 4:11 4:13,20 27:3 89:12 116:9 117:3 129:18 253:10 258:14 262:5,8,11,12 265:8 270:16 274:19 275:12 275:15 277:25 quite 115:25 127:2 quote 41:10	raman 103:1,4 103:20,23 130:2 raman's 102:18 ran 153:10 randomized 39:21 40:2,3,20 40:25 range 34:11 35:10 36:24 101:6,7 ranges 151:1 rare 14:13 rarely 86:25 106:1 147:23 148:6,9,19,21 253:22 rate 21:14,14 21:23,25 40:7 rather 102:10 128:15 178:18 179:6 239:12 ratio 88:6 99:22 101:17 ratios 100:17 181:7 rausa 3:12 4:18 190:12 207:10 207:13 rausa's 191:7 191:12,17 193:22 197:11 198:8 202:5,10 202:13 raw 183:19	ray 87:20 reach 67:20 70:19 109:8 120:4 121:2,3 128:7,11 157:11,17,18 reached 62:17 77:10 259:16 reaches 128:9 reaching 77:4 176:15 reacting 103:7 reaction 52:15 52:18,20,22 53:5 55:13 61:6 70:21 71:5 77:7 77:18 98:4,13 99:1,1,10,15,18 106:7,12,16,25 107:8,9 124:1 146:22,24 148:3 150:10 150:18,22,23 151:4,14,15,15 151:21,22,24 153:16,25 157:14 158:16 185:3,15,19,21 192:23 193:14 193:17,18 197:22 199:8 199:16 200:3 216:21 220:7 221:10,13,18 222:1,11,12,16 222:19 223:3	238:9 239:18 239:18 261:25 272:9,14,22 reactions 52:23 59:16 60:17,20 106:15 108:13 197:18 198:5 221:21,23 reactive 23:4 23:12,14,18 24:17 25:1 68:20,25 258:15,15,18 258:20,23,24 read 25:10 31:11 50:13,15 62:20 68:1,4 72:7,20 86:14 90:20 100:1,22 111:13 168:17 176:16,21 177:17,19 183:4 233:17 263:11 271:23 278:23 280:5,7 readily 186:22 reading 14:4 52:9 167:9,11 168:13 186:17 real 264:21 realized 38:7 really 13:3 21:2 28:20 35:2 40:15,17 50:22 58:21 59:1 102:5 124:12
r			
r 2:1 13:18 195:20,21 radiation 37:17 37:21,23 38:1 74:3 113:1,3 radiologically 57:21			

[really - regulatory]

Page 56

127:25 148:19 165:3 180:1 182:3 249:13 252:21 reason 24:11 29:2 55:2 60:6 60:7 107:24 108:16,19 114:9,20 148:7 150:8 152:16 179:3 195:13 220:25 227:8 228:4 250:25 257:8 262:1 reasonable 24:1 reasonably 101:2,3,7,8 reasons 24:14 57:1 58:8 74:20 113:16 166:11 169:7 220:22 recall 48:3 100:13 101:13 102:17 160:21 168:10,13 189:8,18,20 195:22 202:1 217:22 220:14 259:13 262:7 273:12 274:20 274:24 275:14 receive 138:17 165:1 188:25 201:18	received 47:23 57:11 58:22 136:7,8,13 160:17,19 164:19,22 183:18 247:16 receives 57:4 recently 51:14 receptors 27:25 recognize 218:25 recognized 174:16 218:17 276:25 recollect 191:18 204:2 262:23 recollection 225:8 recommend 146:2 recommendat... 146:11 recommended 145:21,22,22 record 4:10 101:21 163:10 207:2,5 210:3 218:24 229:3 254:12 277:22 recorded 279:6 records 6:6,7 49:3 162:7,8 168:11 219:2 276:14,20	rectum 194:15 recurrent 149:13 recurring 192:20 recuts 249:10 reduce 121:11 reduced 279:7 reducing 16:2 refer 4:16 44:9 71:10 263:14 reference 49:24 49:25 50:1,14 50:20 65:16 132:21 165:21 168:4 190:13 190:23 195:21 203:11 210:8 213:2 215:9 224:17 243:4 263:10 268:12 274:9 referenced 193:15 references 50:4 50:5 referred 44:10 168:14 referring 4:17 4:24 45:2 52:21 77:23 78:24 80:18 85:15 105:2 143:22 144:6 154:3 164:24 186:6 198:13 220:9	refers 134:9 167:4 reflect 160:18 refrignence 187:6,13 refrignent 186:25 187:5,9 195:6 199:10 278:19,21 regard 4:22 26:22 29:6 42:21 66:21 71:25 135:3 177:16 225:16 254:2 256:12 257:1,13 258:7 258:10,15 259:17 264:4 264:25 265:9 266:17 267:3 267:19 276:12 277:8 regarded 95:13 regarding 39:6 40:18,23 65:8 259:3 regeneration 261:6,6,9 region 87:12 registered 1:14 279:3 registry 126:9 regularly 254:3 regulatory 74:24 75:2
---	---	--	---

[reid - report]

Page 57

reid 268:16	relief 256:20	255:25	64:13 68:10
reilly 2:10	relocate 252:16	renal 130:13	83:12 85:4,10
relate 251:4	rely 50:3,8	render 117:8	85:12 86:8,15
related 26:8	116:13 127:16	repair 19:9,10	87:3 93:7 100:1
53:7 64:1 65:1	153:19 268:13	19:11,13 20:5	102:2 130:15
117:25 118:3	relying 50:7	20:11 21:10,11	132:14 140:6
147:11 163:15	120:9 132:22	21:15 22:4,19	140:20,21
277:19	153:14 165:21	22:21,23 23:1	147:17 155:8
relates 64:7	190:23 193:7	26:17 143:11	158:17,25
259:4	203:11 215:9	repairs 28:14	165:17 166:15
relationship	224:17 243:4	repeat 115:15	166:25 167:14
17:16 259:18	274:16	216:1 235:2	167:24 168:8
relative 34:11	remain 20:12	265:15 270:9	176:15,25
35:5,15 36:23	109:19	rephrase	177:8,17,20
37:7 145:10	remains 24:19	270:10	183:7,8,10,12
181:7,18 188:8	152:8,9	replaced	183:22 184:8
279:13,15	remediate 71:1	235:19	184:11 186:2
relatively 40:11	remember	replicate 22:13	189:7 190:18
relatives	31:19 65:4,11	28:9,11 123:22	196:9 203:4,6
143:23 144:21	88:8 100:20	252:17	206:23 207:6,9
245:18 246:3	102:21 103:17	replicated	207:10,12,14
released 68:20	103:23,25	22:15 23:11	207:20 208:2
relevance	112:14,21	24:22	214:5 215:5,19
170:17	119:18 137:19	replication	216:5,6,17
relevant 45:25	146:7,12	21:14,15,17,23	219:25 223:22
46:5 137:21,23	184:13,15	21:25 22:9 23:6	224:12 227:1
204:5	190:11 205:9	23:20 26:16,16	227:24 228:2,3
reliability	255:10 270:12	26:25 28:13	228:7,11,15,23
43:17	270:16	33:20 68:22	229:5,23 230:1
reliable 39:15	remembering	202:17,18	230:2,12,21
115:1 116:8	45:16	report 3:9,10	231:12 237:11
196:11	removal 193:4	3:11,12,13,14	242:25 255:9
reliance 62:19	remove 136:25	3:15,16,17,19	262:24 267:12
relied 6:13 16:4	removed 56:3	31:17,17,20	267:16 268:9
195:22	81:7 159:12	32:2 34:24	271:13,16
	185:7 238:12	38:23 43:20	273:17 274:10

[report - reviewed]

Page 58

275:17 277:4 reported 1:14 87:1 98:8 231:1 231:3 244:14 265:12 266:6 reporter 1:14 279:4 reporting 86:1 100:2 102:2 265:11 reports 5:24 44:14,24 49:25 64:19 72:7,13 72:20,21 83:11 85:5,13,22 98:3 99:25 112:6 131:24 133:17 147:22 160:1 176:17,17,20 176:23,24 177:3,17 182:6 192:21 215:25 229:6,12,14 231:21 258:12 259:6 260:20 262:6,19 263:9 263:21,22 265:21 266:3 266:13,25 267:6 268:9 271:5 275:18 275:25 276:3 277:10 represent 14:16 45:8 78:21 178:2 274:14	representation 78:8 representations 104:24,25 representative 138:24 represents 78:20,21 reproductive 3:4,5 70:1 78:6 78:22 79:12 109:1 111:9 123:10,18 264:2 reputable 69:24 95:6 request 138:10 138:19 163:2 190:7 202:7 214:1 223:17 requested 6:19 201:15 require 36:8 47:6 135:11,16 135:25 research 15:7 47:24 62:3,17 115:22 116:3 120:12 164:19 181:21 214:17 researching 61:17 62:1 reserve 46:2 resident 230:10 resolve 251:23	respect 254:5 respected 41:10 115:6,19 respond 47:6 179:11 responding 240:17 response 54:8 57:14,15,17 70:25 71:2,11 86:4 100:5 107:10 150:14 182:3 185:24 200:3 240:2,4 258:17 259:10 259:13,22 260:2,11 261:17,25 262:10 267:3,4 267:5,13,14 responses 157:7 182:2 260:10 responsible 197:3 230:2 rest 32:24 56:17 190:13 restricted 178:17 restricting 178:21 restroom 163:9 result 20:19 40:21 143:15 144:4 159:8	resulting 13:5 results 69:19 72:16,19 87:9 165:7,8 retain 242:20 retained 48:19 48:25 62:4,7 201:21 224:4 253:1 rete 250:6,7 retrieve 165:12 retrograde 81:17,19 83:3 109:14 110:3 179:21,23 retrogradely 107:25 retrospective 39:4,16 40:4,24 126:11 181:1 reveal 218:12 revealed 219:9 reveals 146:15 reversed 31:2 review 5:21 10:19 11:1,5 16:22 49:10 126:9 137:25 146:15 147:16 147:17,18 177:3 238:14 248:19 253:20 254:6 275:8 276:13 reviewed 95:14 95:18 131:21
--	---	---	---

[reviewed - run]

Page 59

138:2 140:7	118:25 119:7	222:13 223:9	226:15 241:22
224:6 249:12	122:7 124:8	226:25 229:19	245:25 246:17
268:3	125:6 127:18	231:17 232:10	247:6,12,16,19
reviewing 9:5	129:20,21	232:16,19,19	247:25 260:10
10:24 256:12	130:18 131:11	233:23,25	261:18 276:16
reviews 40:8	131:14,21	235:8,8 236:24	276:19,21,25
revolutionary	132:11 134:25	237:17,19,24	277:3,13
13:4	139:5,14,23	237:25 238:16	risks 123:1
reza 230:4,10	143:1 144:9	238:20 239:21	rls 1:6
230:17	148:20 150:4	246:4 248:15	rmh 2:12
right 6:1 10:10	150:11,23	249:6 250:20	rna 19:24
10:17 11:8 12:5	151:8 152:7,13	250:20,25	road 1:11 43:10
14:11 16:18	154:3 155:1	253:5 278:14	279:10
23:23 24:8,18	156:8 157:2,20	278:17	robust 39:20
25:6,12 27:14	158:21 164:22	risk 17:9,12	role 9:14,24
29:10 30:10	166:14 167:1	22:23 34:11	65:9,17 66:10
31:22 32:25	168:10,25	35:5,13,15,17	112:16 165:9
33:23 34:22	169:10 170:3,7	35:17,18 36:22	275:22
35:3,19 36:21	170:12 174:5	36:23,24 37:2,5	room 88:8
38:9,13 39:12	177:12,17	37:7,7,13 38:2	roots 175:12
39:22 40:14	178:8 182:18	65:1 66:21 70:6	round 241:21
45:16 48:21	185:19 186:6,7	74:9 86:20	rounds 64:22
50:18 51:16	187:10,16,19	107:14 125:11	routine 56:22
55:11 56:16	187:21 189:17	143:19 144:21	198:24
66:10 69:8	191:21 195:23	145:7,9,11	row 19:24
71:12,18 74:4	196:2,24 199:2	172:7,10,14,19	rpr 279:22
80:9,14 81:24	199:4,5,14	173:9,18 174:1	rule 12:7,9
82:16 85:20,23	200:17 201:7	181:7,19 192:7	54:15,19 86:5
86:15 87:23	201:10 202:25	192:13,17	100:6 121:9
88:11 90:21	205:16,25	202:20 204:7	255:23 277:17
91:19 93:24	206:15,17	204:19,22,25	277:21
95:11,15,19	213:7,12	205:2,4,7,20	run 63:12
97:25 98:10,12	215:25 216:17	206:11,14	106:18 153:10
99:11 101:10	217:5,16	214:19,20	163:8
110:11 113:2	218:22 219:10	218:5,13,17,25	
114:5 118:20	221:11 222:8	221:4,4 226:10	

[s - seen]

Page 60

s	158:21 172:8	scope 216:6	45:20,24 56:15
s 2:1 3:1 7:8	175:2 178:24	scrape 79:25	57:11,16 65:19
143:3 195:21	197:25 199:6	screening 18:18	69:16 73:6 75:7
sacs 128:18,19	199:20 200:1	sds 83:22	82:11,14 83:9
safe 71:21	201:11 216:6	seal 279:19	83:10 93:9
73:11,20 74:25	229:16 235:20	search 17:2	97:18 106:16
75:11,22	262:24 270:3	116:5	107:2 110:16
255:19	270:14	searches 6:15	127:4 133:2
safety 75:15	says 11:2 33:6,8	second 27:11	138:10 141:7
salary 161:18	78:20 86:1,19	79:6 143:13,24	141:12 148:15
sales 1:4	89:17 93:13	143:25 191:9	148:17 164:6
salpingectomy	122:24 145:17	192:21 207:3	164:23 167:17
172:4	147:22 168:9	220:25 229:15	168:2 180:17
samples 13:22	186:2,20	244:10 246:3	187:6,25 190:7
82:13 256:16	187:20 229:23	secondary	193:17 210:6
sampson 169:1	236:19 248:3	166:19	217:8 219:24
sandra 3:6 85:2	266:23	seconds 56:9	223:5,17 228:4
sat 11:23 26:9	scanning 85:18	secrete 252:10	228:6,14,24
save 6:2 280:8	87:6,18 89:17	section 3:5 32:9	233:7,11
saw 42:15 49:3	91:11 92:1,14	59:22 79:5,9,11	235:21 242:4
52:1,5 84:17	93:12 94:16,19	89:21 90:6 94:5	253:7 256:15
101:15 183:19	96:5 100:15	138:24 146:13	256:16
249:6	101:15 131:10	146:14 164:17	seeing 168:10
saying 7:11	scattered 89:18	166:24,25	211:8 262:24
39:17 57:18	89:21 94:5	167:3 168:3	seem 157:16
72:11 89:2 90:1	96:19 241:10	180:24 181:1	245:24
91:4 92:22	school 16:3	182:1,3 208:6	seems 25:6 29:6
93:13 94:12,14	39:11 51:16	217:23 219:8	29:9 59:3
94:25,25 95:1	science 36:20	229:8 239:12	141:19 247:22
98:18 101:10	42:6,6,11 75:4	248:17	seen 23:4 49:11
101:21 124:13	scientists 13:17	sections 219:23	49:18,20 54:16
125:17 136:5	38:5 69:18,25	220:1 226:25	72:16 73:3
148:9 149:5	70:4 71:10	229:17 232:16	77:13 104:21
155:22 157:16	85:20 90:1,23	244:23	104:24 105:1,3
157:18,23	91:3 100:14	see 12:17 17:12	108:2 119:18
		37:21 44:4	119:19 146:19

[seen - shows]

Page 61

153:24 186:22 186:24 198:17 198:21,21,22 199:6 262:6,19 263:21 268:1 270:6,20 sees 83:10 seldom 212:10 selective 109:17 109:21 110:11 sem 88:1,2 89:18 90:7 91:9 91:16,21 92:4,8 94:3 96:23 102:19 103:19 103:22 129:20 139:14,18 182:7,11 183:20 187:2,2 187:4,6,9,14,17 188:7,13,14,19 270:2,25 send 11:13,16 138:7,13 183:9 190:4 202:5 213:24 223:14 242:1 senior 65:22 sense 37:14 148:8 267:9 sent 44:17 184:14 sentence 85:25 100:11 144:3 145:17 158:5 158:15 178:20	178:24 180:25 192:20 198:14 220:5 sentences 192:22 separate 147:8 septum 214:21 sequela 52:5 61:14 134:19 sequencing 11:20 sequester 55:3 56:16 sequestered 193:23 198:18 serial 159:11 series 107:17 127:23 serosa 219:10 219:14 serous 29:23 30:2,15,19 67:15 127:6,13 127:18,23 134:4,6,7,22,23 135:19,20 136:10 141:9 141:10,11,20 141:21 142:1,6 142:11,15,17 143:5,7 145:3 145:20 146:16 170:25 191:20 192:18 202:14 205:18 217:16 218:17 219:1,9	221:15 223:8 229:17,19 230:16 231:14 231:16 237:1,2 237:3 246:9,13 247:2,5 257:4,6 served 6:17 serves 165:10 service 10:15 services 161:10 serving 51:22 set 218:24 259:6 271:13 275:18 279:18 seven 4:11,17 4:19 5:8 6:7 7:18,22 8:22 9:20 138:14 162:10,24 211:2 249:14 several 6:20 28:12 44:5 50:19 65:8 143:8 168:13 175:12 182:16 214:11 239:5 253:17 shape 118:22 118:24 120:2 124:17 129:12 share 229:6 sharing 184:20 shb.com 2:8 sheet 280:1,11 shelf 116:1	shook 2:6 short 60:11 116:17,19,21 show 6:16 25:2 31:23 36:19 37:15 39:7 45:22 49:12,15 64:18 79:14,17 79:20 83:15 84:3,10,16 97:24 98:12 99:1 111:20,24 163:16 174:24 206:9 216:18 216:21 226:9 229:17 236:16 256:21 264:9 264:19,20 266:14,18 showed 64:12 94:5 139:13 156:19 192:5 206:3 226:13 257:24 272:17 shower 80:8 showing 41:24 85:1 89:21 94:10 160:15 shown 38:14 49:21 69:1,2 73:4 112:4 238:15,19 264:2,8 shows 37:13 55:21 78:15 96:11 99:4
--	---	---	--

[shows - somebody]

Page 62

164:16 229:19 232:21 side 128:14,15 128:16 sides 43:25 sign 278:24 signals 240:8 signature 103:8 279:21 signed 230:12 280:14 significance 135:2 192:3 229:13 277:9 significant 70:12 76:20,23 82:19 144:25 151:11 157:12 157:13,19 172:2 173:13 244:21 246:10 significantly 235:9 signing 230:13 silent 20:16 silicon 99:22 100:16 101:17 similar 15:1 89:23 94:7 122:2 127:6 160:10 184:20 213:11 similarly 74:9 129:1 simple 27:3 193:2 238:10	255:15 simpler 176:8 simplifying 173:4 simply 273:6 simultaneous 274:4 single 50:16 58:1 83:12 86:8 93:3 124:21 125:3 134:14 148:21 166:7 241:21 sister 195:23,25 196:1,19 274:24 275:7,8 sit 48:2 146:10 189:24 sites 85:17 87:7 233:16,20 sits 27:14 sitting 30:10 55:17 106:2 116:1 situation 24:17 situations 25:11 256:7 six 21:25 211:2 size 45:6 54:7 134:13 150:4,5 150:6 151:1 166:20 212:7 sizes 154:25 skilled 131:16 skin 76:14 80:9 195:11	sleep 252:12 slide 11:15 12:15 45:8 99:4 148:16,22 149:2,5 219:8 232:12,15,18 232:21 248:18 248:21 249:7,9 slides 9:6 10:24 11:8,12 12:3,8 16:17 45:12 56:21 58:6 59:9 60:3,4 93:9 126:24 133:24 137:24 138:1,2 146:14,15 147:16,19,24 148:7,18,25 163:15 175:23 190:10 199:13 201:23 213:6 213:21 214:4 215:15 216:18 216:20 217:6 219:9 221:6 222:25 223:11 223:20,20 224:6 227:5 237:22 242:8 242:14,15 243:10 248:18 249:12 253:2 261:21 271:7 278:5 slight 70:8	slightly 145:9 151:1 slovovitz 268:16 slough 81:25 105:10 sloughed 81:6 106:5 sloughs 81:23 slow 21:13 slowing 21:14 slurry 151:25 small 54:17 74:18,18 97:17 97:21 121:14 205:15 247:14 smaller 54:19 135:23 smear 41:19 smoke 25:22,24 26:8 38:14 smoked 38:17 smyth 2:10 sneak 50:10 sneaky 231:18 societies 42:3 society 41:16 software 254:14 solely 174:17 249:1 251:18 solid 18:25 19:8 solvent 159:13 somebody 35:3 137:5,7
--	---	--	--

[somewhat - standard]

Page 63

somewhat 160:6 170:15	space 45:5 129:5 149:12	205:1 215:24 216:13 263:14	spent 61:17 62:1
sooner 142:9,11	150:12 152:1,3	268:12 276:18	sperm 80:22
soothe 155:12	152:5,6 180:14	specifics 272:6	109:20
sorry 10:5 18:13 30:17	180:17 208:14	specify 248:2	spindle 127:3
31:5 33:10 53:9	209:6 210:17	specimen 86:5	sporadic 144:6
61:19 64:5 73:1	241:5 264:16	100:6	202:14,16
78:1 83:19	264:24	specimens	223:10
86:11 87:4	spaces 151:23	182:12 188:10	sporadically
100:22 109:22	speak 16:17	193:1,22	19:1 34:2
112:14 115:14	17:21	238:11	spot 89:4
129:16 147:1	speaker 47:19	spectra 183:20	spread 175:13
148:13 156:4	speaking 18:7	spectroscopy	175:15 179:7
167:8 178:12	184:7	87:20 102:18	squamous 77:1
178:23 180:16	special 14:14	103:2,4,20	80:4 82:21
202:3 204:3	specialty 95:17	130:2	255:10
206:3 211:2,15	153:7	spectrum 89:24	ss 279:1
212:14 214:24	species 23:5,13	94:8	st 2:3
216:1 218:3,22	23:14,19 24:18	speculate 24:5	stacked 125:15
230:5 235:2,8	25:1 68:20 69:1	112:25 114:15	stage 136:10
239:23 250:10	109:19 258:15	114:17	152:12,19,25
264:7 265:15	258:16,19,21	speculating	154:15,18
sort 35:10 59:2	258:23,24	113:21 227:5	169:3,6 178:14
96:16 103:18	specific 4:13,15	speculation	178:16 179:8
164:21 169:9	4:23,24 43:18	24:5 37:11	191:4,20
169:16 181:6	52:17,20 117:2	75:25 156:23	203:17 215:16
sound 48:21	131:24 132:9	196:21	224:24 225:14
source 24:17	134:9 208:9	speculative	225:22 243:11
39:14 41:5	221:12 239:25	155:20	stain 278:21
61:12 115:1,7	240:7 247:19	speed 20:8	stained 58:19
120:5 193:7	262:17 263:9	spell 115:24	118:11 249:10
236:12,18	specifically	spend 5:4,16	stains 118:12
263:14	85:5 87:15	9:4,7 11:7 14:2	278:9
sources 27:10	89:14 105:2	66:19 102:13	stamp 167:24
116:2,7 193:12	116:7 140:5	spending 59:7	standard 101:4
	175:25 204:9		

[standards - studies]

Page 64

standards 263:20,21	189:15 190:16 191:19 192:1,9	statistics 125:6 152:16	string 99:25
start 4:10 5:3 13:12 28:16,23 30:20,24,25 31:2 108:4 131:23,24 132:11 142:23 158:24 182:2 189:10 211:8 211:11,13 216:5 246:18 246:20 258:23 266:16	193:16 197:7 200:10 206:23 207:20 208:6 216:7 217:24 219:7 220:4 221:14 222:23 225:17 226:21 249:15 251:15 279:1,5	stays 252:13 stem 275:8 sterile 110:10 110:25 stic 142:16,25 143:2 stickier 241:16 sticking 26:20 sticks 61:11 stomach 144:15 stop 27:18 56:11 252:7 stopped 108:11 108:14,18,22 127:19 197:19 198:5 200:8	stroma 106:18 106:24 209:25 210:5 strong 34:5,10 34:17,19 35:13 35:15 181:13 255:21 strongest 143:19 structures 77:10 78:15 250:1 stuck 129:12 students 15:16 16:4,11 17:1,18 studied 87:17 111:12 113:22 249:7
started 11:10 43:15 52:9 62:9 97:22 112:20 162:15 176:13 189:6,11 257:12 273:20	stated 74:24 86:18 122:13 136:15 158:17 158:25 172:1	stops 21:22 56:5 storage 45:5 stored 173:1 straight 10:25 218:24 stratifying 211:10 straw 265:1 strength 35:21 strictly 18:7 147:18 strike 49:18 133:6 176:9 202:3 204:3 206:3 218:3 238:3	studies 6:9,10 6:12 18:10,10 23:4 38:23 39:3 39:4,5,15,16 40:1,3,4,15 42:19 43:2,6,13 43:17,19 50:20 50:21 51:5 68:1 68:4 70:11,16 75:6 83:15 84:3 84:10 85:17 86:1,21,25 100:2 102:2,15 111:13,20,24 156:14 157:1 181:2 197:8 200:11,19
starting 90:18 90:19 128:16 starts 26:1 27:8 28:9,20 29:3 250:1 state 41:21 85:8 87:9 96:6,8 101:4 112:6 140:19 144:12 144:20,24 146:14 147:13 153:21,23 155:8 156:13 157:6 158:3,5 174:4 177:22 178:13 188:7	statement 22:16 43:16 75:10,12 85:6 98:23 100:1 102:6 122:20 147:21 148:7 182:6 192:10 219:5 247:17 statements 133:12 191:12 191:16 203:25 217:20 225:6 243:18 states 1:1 181:1 static 24:16,23 152:8,9 statistically 70:12 93:8 statistician 35:23		

[studies - symptoms]

Page 65

201:11 205:6 236:16 247:9 260:21,21,21 265:5 study 3:6 25:2 26:4,7 39:21 40:17,21,25 42:16 43:8 85:2 85:3,15 86:12 86:18 89:8 93:5 99:24 100:12 100:13,20 101:14 102:5 103:18,19,23 104:5,8,23 126:6 138:4 156:19 164:15 164:20 165:2 195:22,22,23 195:25,25 196:8,10,19 199:13 200:23 201:12 265:10 265:12,19 266:2,6 267:4 267:11 274:20 274:21,24 275:4,8,9,9 study's 101:7 studying 18:19 26:11 sub 212:9 subjected 182:7 submucosa 77:2,20,23 79:4 79:24 80:1,17	substance 207:12 substantiates 229:25 substantively 64:9 subsumed 222:1,3,6 subtype 246:6 subunits 66:24 sudden 22:1 suffer 269:13 sufficient 77:7 277:11 suggest 166:21 193:12 205:6 suggested 181:2 188:11 214:13 suggesting 125:16 suggestion 170:18 suite 2:11 summaries 13:7 72:23,25 summarize 162:6 supplemental 176:25 supply 58:9 220:25 support 171:12 177:24 274:11 supporting 68:2 140:22	141:1 216:10 217:1 supports 186:22 sure 18:13 22:6 25:9 31:25 33:14 55:20 62:21 65:16 71:17,19 76:8 80:21 82:9 88:13 101:25 111:10 115:23 119:19 123:6 140:4 159:10 163:18 165:8 167:18 168:9 175:12 177:5 186:20 197:16 205:11 209:6 216:5 222:22 228:7 236:22 238:21 265:18 270:12 surface 91:23 92:2,2,5 188:9 188:14 220:3 229:18 surfaces 98:15 surgeon 10:25 168:12 surgeons 9:22 10:2 52:4 197:19 198:5 200:7 surgeries 60:18	surgery 52:4 57:5,24 147:15 270:22 surgical 3:17 3:19 9:5 10:4 10:19 45:8 56:21 59:6 60:3 60:4 108:10 126:24 127:22 137:25 138:2 154:25 193:3 198:6 227:23 surgically 238:12 surprising 97:20 142:4,4 surrounded 107:4 surrounding 106:19 240:8 survive 111:6 susan 132:1 susceptibility 32:17 143:18 susceptible 170:21 suture 198:21 199:22,25 swept 179:20 switch 116:25 sworn 4:3 symptomatic 252:5,12 symptoms 252:4
--	--	---	---

[synchronous - talked]

Page 66

synchronous 166:8,14,17 167:6 168:4,6 168:12,14,20 168:23 169:23 174:22 178:1 274:13	163:11 203:1 207:4 229:2 231:7,8 253:8 277:24 279:10 280:6	108:12,12,15 108:19,22 109:1,2,4,8 110:14,15,15 110:16,19 111:8,14 112:7 112:8 120:16 130:17,24 133:3 140:23 141:5 147:25 148:12,13,15 149:11,15,15 149:22,22 150:4,6,7,9,9 150:12,17,21 150:25 151:7,7 151:25,25 152:3 153:23 154:10,21 155:1,8,11 156:14,17,19 156:25 157:10 157:11,17 158:1,18 159:1 159:6,7,8,17 180:24 181:3 182:9,10,13,15 182:24,25 183:2,2,5,24 184:2,25 191:5 193:12,16 197:8,13,15,18 197:19 198:4,4 198:5,20,23 199:1,11 200:8 201:1 215:22	216:10,12 217:2,3 259:11 259:18 263:9 263:14,18,19 263:23 266:8 266:20 267:1 267:22 268:1 270:2,4,14,15 271:1 275:21 talc's 86:24 talcum 1:4 38:20 39:6 51:20 72:1,8 73:17,20 74:22 75:14,22 76:3 76:17,24 84:14 137:17 141:2 259:4 260:18 262:7,12,17 272:8 talk 18:1 81:4 89:8 173:22 269:1,3 talked 34:24 237:18 257:11 257:19 258:6 258:11 259:7 259:21 265:13 265:21 266:3 266:23 267:6 267:21 268:19 268:23 271:10 271:23 272:17 275:13 277:9 277:16
syndrome 172:3,17 173:9 synonyms 50:7 synoptic 57:6 system 14:19 systematic 40:8 systems 250:2,2	takes 11:17 12:5 talc 17:5 46:17 51:6,8,15,25 52:5,13 54:3,4 54:7,7 60:18 61:14,17,20,24 62:10,18,25 64:1,8,21 67:18 67:20,21 70:13 70:19 71:7,21 77:2 82:11,17 82:20,22,24 83:11,13,21,25 84:3,16,19 85:16 86:1,4,8 86:19,21,23 87:5,6,9,17,22 88:3,14 89:13 89:24 90:2 93:2 93:3,10,14 94:8 97:24 98:4,13 98:19 99:9,10 99:14,15 100:2 100:5,20 101:16 102:3 102:19,20 103:19,21 104:10,11,11 104:25,25 105:1,4,5		
t			
t 3:1 4:5 7:8 9:15 143:3 253:11 278:2 tactics 252:6 take 7:3 12:12 18:14 21:22 24:1 55:11 74:10 80:8 100:25 111:22 113:13 116:17 116:19,20 123:1 125:8 161:20 163:8 191:9 202:23 207:2 224:10 230:12 242:15 253:5 276:18 taken 1:10 39:9 55:16 60:14 97:21 116:23			

[talking - think]

Page 67

talking 30:22 30:25 33:12 35:1,19 36:21 60:16 72:21 79:15 82:9 83:14 99:20 105:7,8 107:7 125:4 137:1 154:24 155:14 163:25 184:18 184:21 185:8 187:1,22 199:17,23 230:14 257:4 262:14,16 263:8,10,15,17 263:18 269:5	229:12 240:21 246:20 249:13 272:24 tells 272:25 278:10 tem 130:12,12 131:14 ten 5:6 11:11 12:13 30:24 48:20,23 67:2 88:16,17 99:21 110:8,8 165:11 177:23 274:10 tend 13:21 tendency 194:25 tens 77:3 157:7 198:14,16 teratomatous 198:22 term 17:14 50:8 58:8 68:12 69:4,7 71:3 81:24 115:4 135:13 146:20 154:8 181:6 182:16 233:5 237:6 260:24 261:2,4,13,13 termed 14:24 test 180:6 tested 206:19 testes 250:6 testified 4:4 48:4,7,9 51:13 73:2 86:7 122:6	159:1 160:4 198:8 testifying 130:23 259:13 testimony 25:11 33:21 63:8 130:17 158:18 199:18 242:12 255:22 271:24 276:14 277:3 testing 72:16,17 72:18 83:23 145:18,23 146:2 174:5,8 178:6 192:1,5,5 205:24 206:3,5 206:9 218:9,11 226:1,3,8,13 testings 206:15 tests 66:15 72:17 277:16 277:17 textbook 114:25 115:8 115:19 textbooks 115:20 116:3 thank 46:24 176:13 177:6 190:15 256:18 278:1,23 theoretical 76:5 theoretically 121:5	theory 124:20 129:7 142:18 220:24 therapies 11:22 therapy 135:9 135:17,25 252:4 thereabout 114:13 thicker 134:11 thigh 84:23 238:1 thing 10:15 12:3 32:10 40:11 43:15 58:12 80:10 88:12 113:16 159:24 173:2 198:25 215:20 265:11,11,20 266:23 things 6:20 9:2 23:25 24:3,21 25:8 59:16 74:21 78:14 80:7,7,11,13 104:9 109:16 110:12,13 112:24 115:9 122:23 140:21 159:25 163:21 167:7 173:18 183:25 think 4:21 7:24 17:21 19:6 23:22,25 24:11
--	---	---	---

[think - tissues]

Page 68

25:4,12 31:9,24	thinks 46:5	72:12 100:25	138:19,22
33:3 34:11,15	thinner 134:12	102:13 106:1	139:4 146:23
34:16 35:12	third 53:11	116:20 137:21	148:2,2,13,14
36:24 37:2,8	215:20	147:15 160:19	158:20,20,23
38:11 40:12,14	thought 29:24	164:11 177:2	159:3,4,9,10,22
41:2 42:8 48:16	31:8,12 42:7	193:3 233:6	175:19 184:1
48:22 50:8 68:9	82:17 89:7	236:5,10	186:10 188:9
69:14,15 87:20	90:23 114:23	254:14,25	190:4 193:3,4
94:2,15 95:5	120:3 132:19	256:5	193:13,19
103:12 108:21	133:20 134:4	times 8:25	199:7 200:2
109:4 110:18	170:11 171:3	28:12 52:1	202:5,7 207:22
112:22 114:20	187:1,22	89:18 106:22	210:13 212:15
115:6,6,18	thousands	118:4 182:17	212:18 213:2
116:10 120:25	55:22 77:3	tiny 121:13	213:24 214:1,9
125:10 129:11	110:14 157:8	212:9 252:20	216:21 220:12
130:1 131:13	198:14,16	tired 176:14	223:15 234:12
135:23 136:6	three 5:19 7:24	tissue 13:15	234:21 235:3,6
137:20 138:16	8:1 34:17 35:12	55:25 59:20,22	236:7,20 237:5
138:21 140:17	35:14,19 53:6	59:24 67:21	239:7 240:6,9
142:1 161:14	54:18 130:5	68:16 70:22	241:2 242:2,4
162:11,13	153:11,14	81:6,23 83:2,23	253:20 254:6
166:16,16	169:17 179:8	84:1,4 86:2,25	255:24 256:8
172:10,16	192:21 202:23	90:3 91:22 92:3	257:17 259:11
177:9 183:6,19	216:11,15	92:5 93:1 96:19	259:23 261:5,6
183:20 196:13	241:20 244:22	97:25 98:17	268:1 270:14
196:16,17,24	256:25 257:1	101:18 105:13	tissue's 56:3
199:17 201:3	throat 245:18	105:15 106:2,4	tissues 13:13
213:17 214:22	time 5:4,12 6:2	106:17,19,23	68:15 83:11,13
222:15,20	8:16 9:4 12:2	107:1,2,3,5,6	83:21 86:22
227:14 228:2,4	14:2,8 15:7	107:10 109:10	100:3 102:3
232:1,4 239:5	18:15 19:16	109:23 120:14	105:1 111:5
240:14,20	20:13 27:12	120:19 121:15	120:17,24
241:4 261:18	47:14 56:18	121:18,19	124:10 133:3
thinking 25:21	57:24 59:6	128:10 129:5,6	153:23 186:3
80:21	61:25 66:13,20	131:21 137:25	238:11 268:22
	69:10 71:8	138:4,7,13,17	269:5

[title - tried]

Page 69

title 10:5 21:5	topics 12:25	training 10:13	traveling 129:4
tobacco 25:20	24:9 38:20	52:2 130:4,6	travels 81:7
25:22,22,24	117:1,17	trait 134:10	125:19
26:3,8,11,14,20	torsion 220:25	trans 257:25	traverse 120:3
38:6,12,13	221:4,6	transcribed	124:10 129:2
48:12,18	total 5:19 186:2	16:8 20:18	treat 13:5
today 6:11 44:5	touch 79:21	transcript 3:20	136:13,20
48:2 57:2 127:8	264:17	4:1 280:5	treated 113:3
257:4 259:7	touches 264:22	transforms	135:7
265:13,22	264:23	26:25	treaties 168:18
266:3,24 267:6	touching 79:22	transition	treating 133:8
267:21 268:23	219:22	55:15 107:15	133:12 136:22
269:6 271:11	tough 80:6	211:3 258:1,2	145:24,25
271:23 275:13	towards 20:21	transitioning	146:5 147:4
277:17	194:18	4:14	165:25 166:4,5
together 40:16	toxin 26:12	transmission	168:11 191:8
41:11 53:21	toxins 38:13	129:23 130:6	191:12,17
240:12	trace 72:14	184:22	194:5 203:22
told 41:6 47:10	74:21 269:15	transpires	204:1 213:1
120:7,9 130:9	track 253:16	254:10	217:15,20
139:8	267:5	transport	225:3,7 243:18
tomasetti 21:4	tract 3:4,5 70:1	180:21	254:2,4
took 11:25	70:8 78:6,9,22	transported	treatment 18:6
13:12 39:11	79:12 80:19	105:11 109:9	135:3,11 136:7
232:5	82:12,23 83:11	109:10	136:14
top 24:18 27:14	83:14,21 109:1	transverse	tremolite 75:21
30:11 102:24	109:7,16,17	214:21	trial 38:25
104:4 140:14	111:6,9,15	transversing	43:20 49:22
145:12 156:10	115:1,17	113:11 114:4	73:5 140:15
195:18 208:19	123:10,19	114:12	219:5,6 242:12
226:21 237:14	233:2 249:19	trapped 80:22	trials 13:6,7
241:6,14	264:2	82:3	41:24 161:14
topic 13:24	train 10:12	travel 80:18,25	tricky 228:12
15:15 64:4,5,21	trained 11:4,4	83:1 129:8	tried 34:14
129:16	256:19	traveled 190:10	111:14 276:17
		201:22 224:5	

[true - two]

Page 70

true 15:10 18:4 21:8 22:3 23:18 23:21 26:19 35:4 38:5 40:20 43:1,6 53:19 54:25 56:12 59:6 60:2 77:8 93:4,6 106:3 112:8 124:21 129:19 139:17 140:25 148:3 154:9 178:4 183:16 230:19 241:9 246:22 280:8	30:13,21,25 31:3 67:13,14 67:16 70:2,20 70:22 81:1,8 83:1 84:4,10,12 97:25 98:15 105:13 113:17 113:18 114:12 142:18,24 167:1 179:6,17 179:21 201:2 217:4 219:11 219:14,15,16 220:3 229:19 237:2,3 250:16 264:10,20,25 265:1,3	145:3,8,20 146:1,16,16 147:14 166:7 166:19 174:13 175:3,10 178:18 179:5 179:15,19,25 180:15 191:4 192:5 203:17 206:24,25 207:21,23,24 212:16 215:15 215:15,15 219:18,19,20 219:21 220:5 220:12,13,23 221:15,24 222:2,4,8,15,18 227:19 232:6 233:1,7,9,13 235:4 243:10 243:13 255:1,1 255:7 274:2,3	178:1,14 179:8 220:18 221:3 231:15 236:23 237:4 244:4 274:5,13 turn 20:24 32:1 34:19 268:11 turnover 58:7 twelfth 110:9 twelve 5:7,15 11:11 49:8 140:10,11 160:7 162:15 257:3 twice 9:13 twist 219:5 two 10:7 12:24 13:2,23,25 14:1 21:22 27:10 28:25 34:17 35:12,20,21 36:1,24 37:6 44:18 53:6,12 61:14 68:17 87:11 91:18,22 92:25 101:20 135:23 141:6 141:13,24 150:1 169:6,7 169:17,17 170:2,25 174:1 174:23 181:9 181:10,12,19 182:11 188:4 188:21 189:9 190:16 204:21
truly 37:6 174:13 trust 196:25 truth 51:24 240:21 try 9:1 18:21 24:4 59:15 219:4 trying 25:12,21 27:4 50:10 66:9 138:16 150:10 199:18 218:23 tubal 113:7,9 113:16,20 114:3,9,11,11 229:20 244:21 250:2 tube 27:9,10,11 27:13,20,21,24 28:1,18,20,23 29:3,4 30:7,9	tuberculosis 53:15 58:17,23 58:25 tubes 77:5,14 86:10,11 87:13 98:5 113:12 114:4 175:14 178:18,22 180:12 216:22 233:18 249:20 250:3,13 tulane 243:22 tumor 57:7,13 57:15,20,25 58:10 64:22 65:18 133:2,4 134:10,22,24 136:11,14 137:2 141:25	tumorigenesis 66:1 tumors 11:21 18:25 19:9 58:7 66:8,12 122:19 125:12 126:10 126:11 130:7 134:20 135:6 135:10 141:10 143:5 147:2 165:4 166:14 168:7,12 170:2 174:22,22,24	

[two - use]

Page 71

208:5 216:9,25 218:2 225:14 225:22 228:20 229:6,11,14 233:10 238:6 238:16,20 246:3 250:2 256:18,25 257:1 268:12 twofold 35:17 twos 170:5 type 14:14 54:8 67:19 68:19 69:3 70:21 121:24 154:10 169:25 170:1,1 170:4,5,9,25 191:4 211:9 214:8 215:15 221:12,16 224:23 238:8 239:20,25 246:23 247:2 247:11 257:3 259:9 260:24 types 37:17 53:6,12 68:7,13 68:18 70:5 106:15 117:18 121:21 143:8 212:5 250:19 257:15 261:1 261:13,23 263:23 typical 12:2 58:6 126:23	178:15 typically 12:7 19:14 55:11 56:23 87:10 141:15 170:4 172:24 183:25 248:8,9 253:22 typo 158:9,11 u u 65:7 ubiquitous 148:12,14 182:13,17 uh 269:18 ulcerative 261:16 ultimately 68:3 166:13 273:22 ultrastructural 100:9,10 unable 6:23 44:20 unaware 26:19 26:20 92:17 139:15 uncertain 192:3 uncle 204:15 218:1 225:20 245:15,18 uncommon 56:15 unconvincing 86:2 100:3 102:4	under 56:22 57:25 63:14 100:14 101:15 104:18,20,22 105:5 151:2 181:9,10,19 206:22 222:25 261:9 279:7 280:3,4,12 undergo 127:11 143:8 152:24 154:10,20 220:23 undergone 52:3 57:3 153:12 understand 16:7 21:8 22:9 33:18,21 81:3 93:11 94:24 103:4,11 108:5 136:18 149:7 149:20 267:1 understanding 29:10 137:16 145:25 170:15 177:25 191:22 260:9 266:5 274:12 280:11 underwent 226:1 undoubtedly 125:13 undulations 180:5 unfortunate 228:21	uniformed 96:16 uniformly 148:2 unilateral 166:21 unique 103:6,8 united 1:1 unknown 277:9 277:19 unpack 29:5 unrelated 235:24 unremarkable 192:10 217:24 unsafe 74:2 unusual 256:6 257:8 upper 70:7 84:23 109:6,16 111:14 208:22 238:1 uracil 19:23 ureters 250:5 urine 10:11 usage 137:17 204:4 225:9 usc 59:5 64:17 use 12:9 17:5 30:17 42:4 58:8 60:11 64:21 70:13 71:22 73:11,20 75:23 78:19 86:19 87:5 101:5 110:14,15
--	---	---	--

[use - wait]

Page 72

115:9 116:5 126:21 131:13 150:8 155:8,11 156:14,19 157:10 197:8 198:3 208:1 213:18 215:22 216:12 217:10 233:5 250:25 252:5 255:23 256:3,5 259:4 260:18 263:19 270:7,21 271:20 272:2,6 275:22 useable 44:21 used 9:16 14:21 48:14 50:5 61:24 86:23 101:19 110:15 111:21 130:8 135:12 149:11 149:15 174:12 182:16 268:2 272:10 useful 42:21 43:1 138:22 232:8 user 37:9 uses 130:13 188:7 using 13:22 50:6 69:11,14 71:17 92:14 159:12 182:22 188:12 197:19	198:5,24 210:3 271:7 usual 221:16 usually 27:14 45:6 55:21 118:13 183:9 194:23 240:5 241:19 254:20 277:14 278:18 uterine 81:6,15 81:20,23 87:12 173:19,23 178:16 181:23 250:16 258:8 264:19 utero 250:20 uterus 81:1 105:11 108:3 109:8 111:17 167:3 174:14 174:22 180:18 194:24 233:18 244:22 249:20 250:14 273:20 v v 13:18 115:25 vagina 76:19,25 77:11,17 79:4 79:18,22 80:11 80:14,17,18 82:18,20,25 110:9 111:9 194:23 249:21 250:14 264:9 264:13,15,16	264:17 vaginal 82:4,8 82:10 214:21 250:16 vague 103:13 validated 200:13 201:12 validation 165:10 valuable 24:24 vantage 188:20 variable 92:4,8 92:14 188:13 variance 88:17 99:21 100:18 103:20 268:2 variant 192:3 variants 277:8 277:12 variation 101:16 252:22 variations 100:16 varied 106:15 varies 256:24 variety 57:1 58:8 166:10 various 252:5,6 vas 250:9 vascular 180:14,17 vascularized 220:20 vast 18:25 177:25 199:20 274:12	vegas 36:5 vein 194:11 verrick 274:15 versus 43:17 48:7 125:8 127:20 151:16 153:4 166:8 168:20,21 182:25 214:14 vertiginous 20:8 vessels 80:2 viable 109:19 vicinity 233:1 view 26:13 208:6 viewed 212:6 viewing 91:22 virtually 59:20 virus 21:21 viruses 111:1 visceral 128:20 visible 261:9,10 278:19,20 vital 51:9 84:1 185:7 241:3 273:1 volume 44:20 239:19 vulva 194:23 195:11 w waf1 66:2 wait 43:9
--	---	---	--

[walk - witness]

Page 73

walk 45:21,22 128:6	96:15,18 103:5 103:7 109:10	wi 1:11	63:3 67:24
wall 128:14,22	115:13 118:17	widely 193:1,6	68:25 69:22
walls 264:17	129:17 144:20	wider 118:14 118:15	70:4,16 71:5,14 72:3 73:14,22
want 17:15 66:16,19 71:18 87:14 89:13 99:23 101:25 116:17 117:2 132:7 150:8 209:13 211:6 230:7	170:21 175:15 176:8 179:21 179:25 180:20 184:2,25 212:19 217:11 225:10 226:12 249:9 257:18 258:20 276:2	wife 6:24 160:21 161:22	75:2 76:1,13 80:16 81:11,19 83:5 84:9 88:5 88:24 90:5 91:1 91:21 92:11,17 94:22 95:3 96:8 96:21 97:7 98:3 98:12 99:13
wanted 132:9 139:25 140:2 163:13	ways 82:19 137:11 174:23	wife's 7:7	100:22 102:24 103:25 104:14 105:18 108:18 111:12 112:3 113:15 114:7 114:15,17 115:4 117:8 120:23 121:5 128:3 129:11 130:12 131:1,7 146:4 149:25 150:16,25 151:10 152:15 153:2,19 155:4 157:4 163:7 170:7 174:20 177:9 181:15 187:12 188:23 189:18 196:13 196:22 200:5 201:5 202:23 216:20 222:6 222:15 240:20 247:9 260:5,15
wants 31:24	we've 13:6,23 60:8 67:7 200:19 201:15 212:22 257:4 268:22 269:5	wiggle 88:8	
warning 37:9	weak 36:3 181:2,6,8,10,19	willing 217:7	
warrant 37:9	website 16:12	winstonson 197:5,6	
warrants 36:24 37:3	week 7:3 256:24,24,25 257:2	wisconsin 1:10 9:13 15:17 63:7 63:14 131:9 160:25 253:24 257:7 269:3 279:1,5,11,20	
watch 137:9 208:12	weekly 256:11 256:23	wisdom 14:24	
water 80:10	weeks 21:24	wish 101:24	
watertown 1:11 279:10	welch 93:20	withdraw 102:11	
wax 271:8	went 38:5 49:2 140:15 171:13 179:5 243:24 254:11,17 255:18	witness 4:2 7:24 16:25 18:24 22:18 23:9,24 24:3 26:6 29:12 31:16 32:4,15 34:5,14 36:3 37:2,12 38:11 39:2 42:10,25 43:12,22 47:3 47:12 48:10 51:1,18 52:17 53:3,23 54:15 55:6,19 59:11 60:6,25 62:13	
way 13:5 21:12 21:18 22:8 23:5 24:13 26:6 28:16 33:13 36:20 44:21 49:2,11 51:10 67:21 69:14 78:16 79:20 80:25 83:2 84:17 93:1,15	whereof 279:18		

[witness - years]

Page 74

262:16,23 263:6 265:15 266:10 270:9 277:6 279:18 witnessed 72:18 wolf 156:11 176:24 wolffian 250:3 250:4,10,11 woman 18:11 28:2,6 29:20 41:18 57:4,10 57:22 58:13 171:18 172:23 200:25 206:14 221:3 234:22 252:7 woman's 218:13 226:10 226:15 women 28:23 31:6 32:16 33:1 33:3,6 52:3 58:4,16 61:12 70:13 71:21 73:11 75:16,23 86:22 101:18 108:7 113:3 141:9,15,16,21 142:8 155:11 171:23 195:25 235:1,3 250:13 252:13,13,20 women's 18:5 161:10 196:6	205:20 206:11 275:3,9,9 wonderful 110:21 word 25:13 216:16 worded 33:13 words 9:5 21:10 42:7 51:5 54:9 56:7 71:2 71:18 104:11 118:19 123:3 124:25 143:6 157:23 159:6 162:20 169:10 170:3 171:3 184:11 191:23 226:19 235:16 249:22 266:1 work 9:11 10:11 12:25 15:8 21:12,16 36:20 46:13 63:19,23 160:8 160:20 161:14 161:19 162:1,1 162:5,9,11,15 162:19,24 184:12 223:24 worked 41:15 59:5 65:6 164:16 working 12:19 14:5 47:14 189:7 256:10	world 83:12 181:5 worry 7:5 worse 41:3 worth 34:18 write 95:22 96:11 198:3 216:16 writes 167:5 writing 168:2 279:7 written 16:8 230:4 239:11 wrong 38:13 91:5 92:21 94:25 97:13 126:3 136:17 168:16 wrote 177:4 230:11 x x 2:14 3:1 4:5 65:17 87:20 125:7 253:11 278:2 xanthomonas 59:16 xylene 159:13 159:22,23 y y 7:8 9:15 yeah 6:4 7:17 12:18,24 15:25 16:2 26:6 29:18 35:11 36:3,17	44:16 48:16,22 49:5 55:19 60:11 64:6 76:1 89:16 94:13 99:8 104:6 122:18,18,21 126:6 129:11 132:3,5 140:4 140:18 141:18 144:1 146:4 162:22 164:25 166:15 173:3 175:7 177:7 180:2 181:15 184:13 189:18 199:4 205:9 222:4 228:13 228:16 230:17 230:25 231:8 236:16,21 240:12 241:7 241:12,15 249:25 257:6 year 141:19 160:11 years 6:14 7:12 8:22 9:20 15:11 15:13 38:6 42:7 43:9 48:20,23 49:8 51:13 57:2 67:2 116:12 126:10 140:10 140:11 152:20 153:24 160:2,3 160:4,5,7 162:15 171:17
---	--	---	---

[years - zoom]

Page 75

177:23 189:2,9 189:10 263:23 274:10 yep 94:2 yesterday 11:10,25 young 49:7 younger 142:8 171:17
z
zero 36:17 121:12 zoom 2:13

Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

DISCLAIMER: THE FOREGOING FEDERAL PROCEDURE RULES ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

THE ABOVE RULES ARE CURRENT AS OF APRIL 1, 2019. PLEASE REFER TO THE APPLICABLE FEDERAL RULES OF CIVIL PROCEDURE FOR UP-TO-DATE INFORMATION.

VERITEXT LEGAL SOLUTIONS

COMPANY CERTIFICATE AND DISCLOSURE STATEMENT

Veritext Legal Solutions represents that the foregoing transcript is a true, correct and complete transcript of the colloquies, questions and answers as submitted by the court reporter. Veritext Legal Solutions further represents that the attached exhibits, if any, are true, correct and complete documents as submitted by the court reporter and/or attorneys in relation to this deposition and that the documents were processed in accordance with our litigation support and production standards.

Veritext Legal Solutions is committed to maintaining the confidentiality of client and witness information, in accordance with the regulations promulgated under the Health Insurance Portability and Accountability Act (HIPAA), as amended with respect to protected health information and the Gramm-Leach-Bliley Act, as amended, with respect to Personally Identifiable Information (PII). Physical transcripts and exhibits are managed under strict facility and personnel access controls. Electronic files of documents are stored in encrypted form and are transmitted in an encrypted

fashion to authenticated parties who are permitted to access the material. Our data is hosted in a Tier 4 SSAE 16 certified facility.

Veritext Legal Solutions complies with all federal and State regulations with respect to the provision of court reporting services, and maintains its neutrality and independence regardless of relationship or the financial outcome of any litigation. Veritext requires adherence to the foregoing professional and ethical standards from all of its subcontractors in their independent contractor agreements.

Inquiries about Veritext Legal Solutions' confidentiality and security policies and practices should be directed to Veritext's Client Services Associates indicated on the cover of this document or at www.veritext.com.